Purchasing Week

McGRAW-HILL'S NATIONAL NEWSPAPER OF PURCHASING

Price Perspective 2
Washington Perspective 4
Foreign Perspective 9
Purchasing Week Asks You.... 11
New Products 18

Vol. 2, No. 30 New York, N. Y., July 27, 1959 $6 A YEAR U.S. AND CANADA $25 A YEAR FOREIGN

Supply–Demand Comes to Life As A Price Influence

New York—The oldest of economic laws is back in force.

Competition again is exerting a strong influence on prices. Although labor costs remain basic to pricing (especially in steel and other raw materials), the old law of supply and demand is back again and gaining.

Supply and demand may be the strongest determinate of whether or not price boosts are feasible in the coming months.

That certainly has been the case over the past few weeks. Producer price changes in such diverse fields as tires, electrical equipment, typewriters, appliances, and textiles all have indicated the basic importance of competition.

In some cases, like electrical equipment and tires, this factor is actually forcing reductions. In others, like textiles and typewriters, it's permitting some rises.

Over-all, however, competition still is a potent force against any inflationary push. It's been the major factor in keeping the industrial wholesale price rise to only 1% so far this year (see chart, p. 4). And, despite cur-

(*Turn to page* 22, *column* 1)

SEN. STROM THURMOND, left, head of Armed Services Committee, discusses hearings with Maj. Gen. W. T. Thurman and Sen. Saltonstall.

The Brickbats Fly as Legislators Probe U.S. Defense Buying Program

Washington—As Congress hounds military procurement agents to sharpen their buying practices, major controversy again has enveloped the government's $24 billion defense buying program.

- Confusing—often contradictory—charges of favoritism, politics, inefficiency, and white-wash are filling the air.
- Half a dozen congressional investigations are probing the different aspects of defense buying and contracting.
- The issues—cutting across party lines—involve the White House, the Pentagon, the General Accounting Office, and the General Services Administration—as well as the public and the arms makers themselves.
- The current studies covering

(*Turn to page* 21, *column* 3)

Office Typewriter Tags Will Rise 6%, but The Electric Models Stay Put

New York—Standard office typewriters probably will be hit with a 6% price increase, no matter what happens in steel.

That's what four major office equipment manufacturers indicated this week.

Portable models already are slated for a 2½% hike Aug. 1 by Underwood Corp. Other manufacturers are expected to follow suit, industry sources told P.W.

Electric typewriter prices, on the other hand, are expected to remain firm. No increases seem likely. But a rise in steel prices would change this situation.

Royal McBee Corp., price leader on standard machines, admitted that a 6% increase was

(*Turn to page* 4, *column* 3)

Flattened Tubing Puffs up to Size

Allen Park, Mich. — Thin-walled metal tubing that can be shipped flat like a roll of ribbon will make its commercial debut this fall.

Named "Strubing" by its developers (Wolverine Tube Division of Calumet & Hecla, Inc., it is expected to find wide applications in construction, electric power distribution, communications, rockets and missiles, packaging, chemical processing, and general manufacturing.

The new process starts with thick-walled tubing made by conventional extrusion or piercing. But the process replaces drawing, a big and costly operation that pulls the tubing through a die.

(*Turn to page* 23, *column* 1)

Railway Express Begins Rate Structure Study, Aims for Simplification

New York—Railway Express Agency has started an intensive 12-month study and revision of the express rate structure to further simplify rates and base them on "the elements of cost, service, and competition."

This was disclosed late last week when the agency submitted its new reorganization plan for I.C.C. approval. The Commission is expected to give its okay within a short time (see p. 7).

While submitting the plan, R.E.A. also filed tariffs providing for a Sept. 1 increase of 25¢ per 100 lb. or minimum per shipment on less-than-carload shipments, and 35¢ on traffic moving within the agency's Eastern or

(*Turn to page* 21, *column* 1)

What Data Processing Means to Your Company

Purchasing agents are on the spot. Current efforts to streamline industry's paperwork take dead aim at purchasing and inventory control operations.

SEE PAGE 12

Purchasing Week SPECIAL REPORT

Management is under pressure to check mounting paperwork costs. And management needs better operations controls. Improved data processing equipment, systems, and techniques are providing timely help.

Many purchasing agents already are looking to their own departments for efficient data processing and are preparing themselves now for an active role in company-wide data processing changes.

All P. A.'s—regardless of the size of companies for which they work—have a stake in better data processing.

Even if the impact of improved data processing does not directly touch the purchasing department, a P. A. with knowledge of data processing equipment and techniques can play a vital role in selection and negotiation steps in equipment purchases or leases.

P. A.'s concerned with present uses and future implications of data processing developments have many information and assistance sources at their disposals. The concluding section of the special report on page 12 of this issue, and the accompanying box, indicate many of these sources.

New Strike Threat Looms As Talks Go to the Wire; This Time It's Aluminum

Most Manufacturers Have Not Hedged–But Big Companies Are Prepared for the Worst

New York—U. S. industry is facing the threat of an aluminum strike this week.

But reserve supplies are heavy enough so most manufacturers can see their way through any production cutoff in the basic metal.

Aluminum producers joined the steel industry last week in saying "no" to union demands for wage increases and other benefits totaling an estimated 15¢ an hr.

The negotiations with major aluminum producers—Alcoa, Kaiser, and Reynolds—entered the showdown stage as:

- The industry reported it had set production records for June (167,323 tons) and the second quarter (486,393).
- Many manufacturers admitted they did little or no strike hedge-buying, as in steel. But they expressed confidence in the ability of distributors and warehousemen to keep them supplied with aluminum through a four-to-eight week walkout.
- Major manufacturers (such

(*Turn to page* 22, *column* 3)

B.D.S.A. Organizes Steel Supply Sources For Defense Plants

Washington—Federal officials organized supply sources last week to keep vital steel flowing to defense contractors. But they believed defense production supply lines will reach well into September.

The government appeared confident defense contractors would be able to ward off shortages for "quite a number of weeks." But key agencies were ready to move in fast with warehouse supply "freeze orders."

Carl Messinger, director of the Business & Defense Service Administration's steel division, told PURCHASING WEEK steel users in defense work weathered the first week of the strike well. No sig-

(*Turn to page* 22, *column* 4)

Railroads Move Closer To Installing 'Agreed' Rates Throughout U.S.

Washington — Railroads have moved a step closer to their goal of installing "agreed" freight rates throughout the nation.

The Interstate Commerce Commission this week held that reduced rates based on volume shipments by the Chesapeake & Ohio, Norfolk and Western, and Virginian Railway Company could be permanently installed.

Last summer, the rails proposed to cut the rate for hauling

(*Turn to page* 21, *column* 2)

This Week's

Purchasing Perspective

10¢ More Without A Price Boost?

JULY 27-AUG. 2

Aluminum and steel have ganged up on the United Steel Workers union in the 1959 labor-management showdown.

Rubber and railroads are the next major battlegrounds where industry hopes to see a united front in demanding a freeze on union wage demands.

Advance planning has paid off so far in steel and also it has given aluminum new confidence.

Manufacturers who in past strikes quickly began to worry out loud about threatened production cutbacks are not exerting that kind of pressure on steel negotiators this year.

Stockpiling activities in the nine months preceding the steel strike provided the necessary muscle to risk a long walkout in a pattern-setting management labor clash.

But just as important to the over-all strategy has been the continuing chips-down support voiced by even smaller firms and fabricators who believe a no-increase policy on wages and prices is a must.

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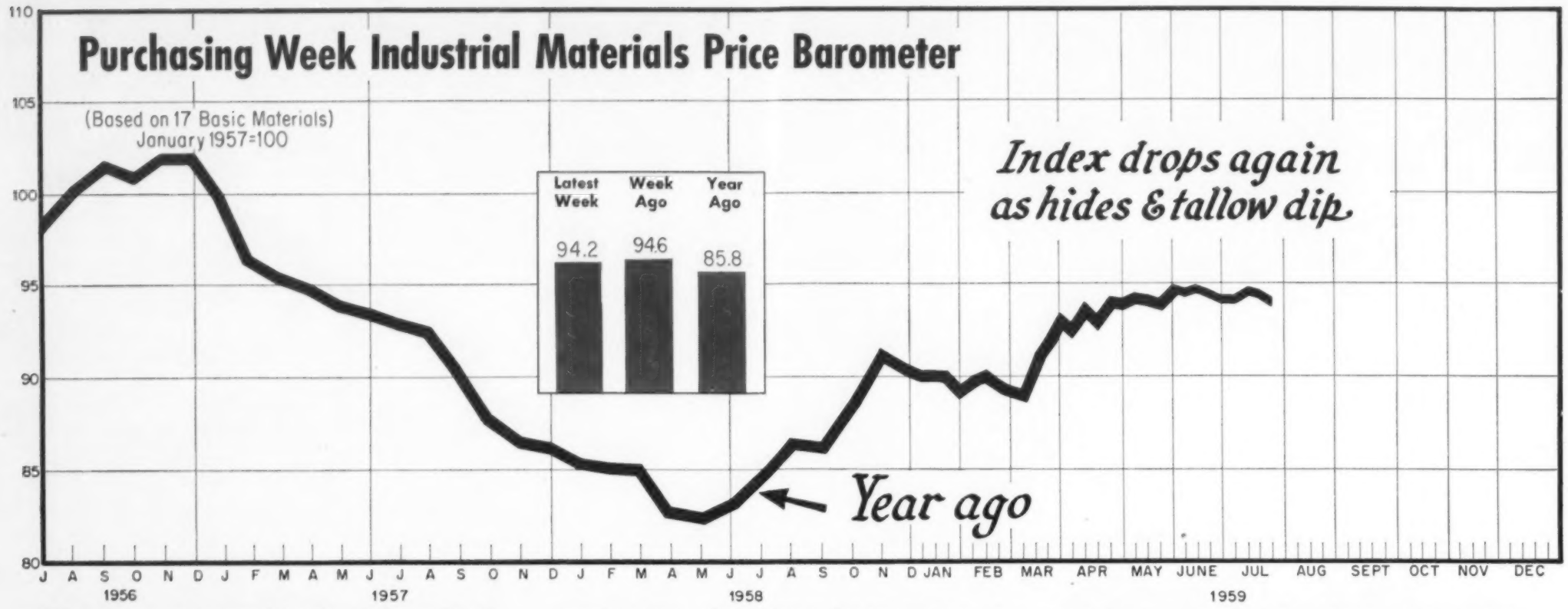
Decision of steel industry to counterattack on the featherbedding issue was influenced by Pittsburgh Plate Glass workers'

(*Turn to page* 21, *column* 1)



This index was designed by the McGraw-Hill Department of Economics to serve as an overall sensitive barometer of movements in industrial raw material prices. The index is not intended to give price movements of specific commodities. The items used are important only in that, together, they reflect the current general market trend in sensitive industrials. Weekly prices for most of the items covered are published in "Commodity Prices" below.

This Week's Commodity Prices

	July 22	July 15	Year Ago	% Yrly Change
METALS				
Pig iron, Bessemer, Pitts., gross ton	67.00	67.00	67.00	0
Pig iron, basic, valley, gross ton	66.00	66.00	66.00	0
Steel, billets, Pitts., net ton	80.00	80.00	77.50	+ 3.2
Steel, structural shapes, Pitts., cwt	5.50	5.50	5.275	+ 4.3
Steel, structural shapes, Los Angeles, cwt	6.20	6.20	5.975	+ 3.8
Steel, bars, del., Phila., cwt	5.975	5.975	5.725	+ 4.4
Steel, bars, Pitts., cwt	5.675	5.675	5.425	+ 4.6
Steel, plates, Chicago, cwt	5.30	5.30	5.10	+ 3.9
Steel scrap, #1 heavy, del. Pitts., gross ton	40.00	40.00	35.50	+12.7
Steel scrap, #1 heavy, del. Cleve., gross ton	38.00	38.00	35.00	+ 8.6
Steel scrap, #1 heavy, del. Chicago, gross ton	36.00	36.00	39.50	— 8.9
Aluminum, pig, lb	.247	.247	.24	+ 2.9
Secondary aluminum, #380 lb	.239	.239	.213	+12.2
Copper, electrolytic, wire bars, refinery, lb	.296	.296	.249	+18.9
Copper scrap, #2, smelters price, lb	.238	.23	.215	+10.7
Lead, common, N.Y., lb	.12	.12	.11	+ 9.1
Nickel, electrolytic, producers, lb	.74	.74	.74	0
Nickel, electrolytic, dealers, lb	.74	.74	.74	0
Tin, Straits, N.Y. lb	1.023	1.023	.953	+ 7.3
Zinc, Prime West, East St. Louis, lb	.11	.11	.10	+10.0
FUELS				
Fuel oil #6 or Bunker C, Gulf, bbl	2.00	2.00	2.25	—11.1
Fuel oil #6 or Bunker C, N.Y. barge, bbl	2.37	2.37	2.57	— 7.8
Heavy fuel, PS 400, Los Angeles, rack, bbl	2.15	2.15	2.50	—14.0
LP-Gas, Propane, Okla. tank cars, gal	.04	.04	.04	0
Gasoline, 91 oct. reg, Chicago, tank car, gal	.115	.115	.125	— 8.0
Gasoline, 84 oct. reg, Los Angeles, rack, gal	.12	.12	.115	+ 4.3
Coal, bituminous, slack, ton	5.25	5.25	5.75	— 8.7
Coke, Connellsville, furnace, ton	15.00	15.00	15.25	— 1.6
CHEMICALS				
Ammonia, anhydros, refrigeration, tanks, ton	90.50	90.50	90.50	0
Benzene, petroleum, tanks, Houston, gal	.31	.31	.31	0
Caustic soda, 76% solid, drums, carlots, cwt	4.80	4.80	4.80	0
Coconut, oil, inedible, crude, tanks, N.Y. lb	.193	.193	.151	+27.8
Glycerine, synthetic, tanks, lb	.278	.278	.278	0
Linseed oil, raw, in drums, carlots, lb	.16	.16	.173	— 7.5
Phthalic anhydride, tanks, lb	.165	.165	.205	—19.5
Polyethylene resin, high pressure molding, carlots, ll	.35	.35	.325	+ 7.7
Rosin, W.G. grade, carlots, f.o.b. N.Y. cwt	9.85	9.85	9.70	+ 1.5
Shellac, T.N., N.Y. lb	.30	.30	.31	— 3.2
Soda ash, 58%, light, carlots, cwt	1.55	1.55	1.55	0
Sulfur, crude, bulk, long ton	23.50	23.50	23.50	0
Sulfuric acid, 66° commercial, tanks, ton	22.35	22.35	22.35	0
Tallow, inedible, fancy, tank cars, N.Y. lb	.067	.068	.083	—19.3
Titanium dioxide, anatase, reg. carlots, lb	.255	.255	.255	0
PAPER				
Book paper, A grade, Eng finish, Untrimmed, carlots, CWT	17.20	17.20	17.00	+ 1.2
Bond paper, #1 sulfite, water marked 20 lb, carton lots, CWT	25.20	25.20	24.20	+ 4.1
Chipboard, del. N.Y., carlots, ton	95.00	95.00	100.00	— 5.0
Wrapping paper, std, Kraft, basis wt. 50 lb rolls	9.00	9.00	9.00	0
Gummed sealing tape, #2, 60 lb basis, 600 ft bundle	6.30	6.30	6.40	— 1.6
Old corrugated boxes, dealers, Chicago, ton	21.00	21.00	19.00	+10.5
BUILDING MATERIALS				
Brick, del. N.Y., 1000	41.25	41.25	41.25	0
Cement, Portland, bulk, del. N.Y., bbl	4.25	4.25	4.26	— .2
Glass, window, single B, 40" bracket, box, fob N.Y.	7.90	7.90	7.00	+12.9
Southern pine lumber, 2x4, s4s, trucklots, fob N.Y., mftbm	129.00	129.00	120.00	+ 7.5
Douglas fir lumber, 2x4, s4s, carlots, fob Chicago, mftbm	144.00	143.00	119.00	+21.0
TEXTILES				
Burlap, 10 oz, 40", N.Y. yd	.10	.10	.109	— 8.3
Cotton, middling, 1", N.Y., lb	.344	.35	.365	— 5.8
Printcloth, 39", 80x80, N.Y., spot, yd	.195	.195	.177	+10.2
Rayon twill, 40½", 92 x 62, yd., N. Y.	.26	.26	.215	+20.9
Wool tops, N.Y. lb	1.685	1.682	1.57	+ 7.3
HIDES AND RUBBER				
Hides, cow, light native, packers, Chicago, lb.	.29	.30	.152	+90.8
Rubber, #1 std ribbed smoked sheets, N. Y., lb	.355	.35	.286	+24.1

This Week's

Price Perspective

JULY 27—AUGUST 2

Long after the ink is dry on the steel contract, the price effects will continue to affect your purchasing efforts.

The repercussions on your operations will rumble on. Four possible effects:

- **Direct**—Any significant steel wage boost will be passed on to you in the price of steel you buy.
- **Pass-through**—Parts will become more expensive, too, as suppliers gradually pass increasing metal prices along the line. If you don't feel it by late 1959, you will in 1960.
- **Union activity**—Aluminum and copper unions—now silently waiting on the sidelines—will try for the same terms if the steel workers win. Other unions are planning to follow the same line: Wait for steel, then ask for an equivalent boost, at the least.
- **Shortages**—If the strike lasts over 4-6 weeks, spot shortages will tend to propel some prices upward.

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Every supplier will want to pass on any increase in his own costs that the metal settlements may cause. But he may find himself hog-tied by the best antidote to higher prices: competition.

Competition continues to grow in many industrial lines (see p. 1).

Profits are back up to record levels. Productivity is up and rising. Therefore, many suppliers may prefer to sit out this round of the wage-price spiral.

New evidence of growing competition came from the tire industry just last week. Despite a recent fringe-benefit concession to labor, and despite the prospect of rising wage costs, the industry cut its prices.

What applies to tires goes for a lot of other major products, as well.

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In many ways the long-term rumblings of the steel-strike settlement are likely to be more significant than whatever price changes may develop as a result.

A long strike—some experts think—could permanently reverse the growth pattern and lead to another recession.

But more observers will argue that the facts don't bear out that pessimistic view. In spite of lengthy strikes in 1952 and 1956, the economy bounced back with zest each time: Within a few months of settlement, the economy zoomed to new peaks.

Too much activity—not too little—may be the problem in the fourth quarter. A sharp jump upward, following a lengthy strike, can push many industries close to 100% of capacity.

Top-capacity demand could create supply and price strains that might linger well into 1960.

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But, on the other hand, a long strike may make 1960 a banner year from an over-all production point of view.

It might force postponement of many purchases now slated for late this year. It could shove them into early 1960, give the first quarter a sharp boost.

This, in turn, could postpone the peaking out of the current boom. A long strike—with the inevitable backlog of demand—would almost certainly assure prosperity for all of 1960.

Today, output stands at 155 (1949=100). By next summer it can come close to the 168 level, particularly if the new compact cars click.

The "growth" issue, given that kind of rejoinder, may remain a bee in many bonnets. But it will be a bee without a sting.

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July 27, 1959

U.S. Industrial Production to Rise into 1960

New York—All signs point to continued rising industrial output into 1960. While summer slowdowns and the steel strike may mean some leveling out in the next month or so, new records again will be set this fall and winter.

Industrial production in the United States reached another new high in June as the total Federal Reserve Board index hit 155 (1947-'49 equals 100). That figure represented a two point boost over the May total and the 15th consecutive monthly rise for this key indicator of the nation's total business activity. It also made the fourth straight month that the index has set a new record.

Index Up 23%

Since the recession low of 126 in April 1958 the index has risen 23% and now stands some 17% above the year-ago level on a seasonally adjusted basis. Although all segments of the economy have shared in the production rise during the past year, it's the durable goods portion of total output that has really paced the economy to its current level.

As the chart (above right) shows, the rise in durable goods production during the past year has been tremendous. At 172% of the 1947-'49 level in June, hard goods output was 23% above the similar 1958 production total.

The rise in production of nondurable goods has been less pronounced. At 146, this segment of the total manufacturing index was 13% above the year-ago level last month (see chart).

All Up but Minerals

The month-to-month rise in June showed all major sections of the total index but minerals, on the upswing. Although mineral production was up 13% from the June 1958 level, it still remains below the record period in early 1957.

After a phenomenal first-half, during which total industrial production rose more than 9%, output in the second half of the year just can't be expected to maintain its recent rate of growth. Besides a slowdown in the rate of increase, which normally follows such a sharp rise, the steel strike is bound to have a dampening effect on total output of the nation.

Past experience shows that although a major strike in the economy has little long term significance, it's bound to delay the rate of growth. If the steel strike runs into August, or if other major industries are shut down by strikes, growth in total output for the rest of the year may be limited to less than one point a month.

Along with the current steel strike and the normal leveling out after a boom, there is a third major factor that will restrict total output during the third quarter. That's the expected cutback in automobile production, stemming from the following:

- Output of 1959 models will be halted early this year for many makes due to the current high level of stocks in dealers' hands.

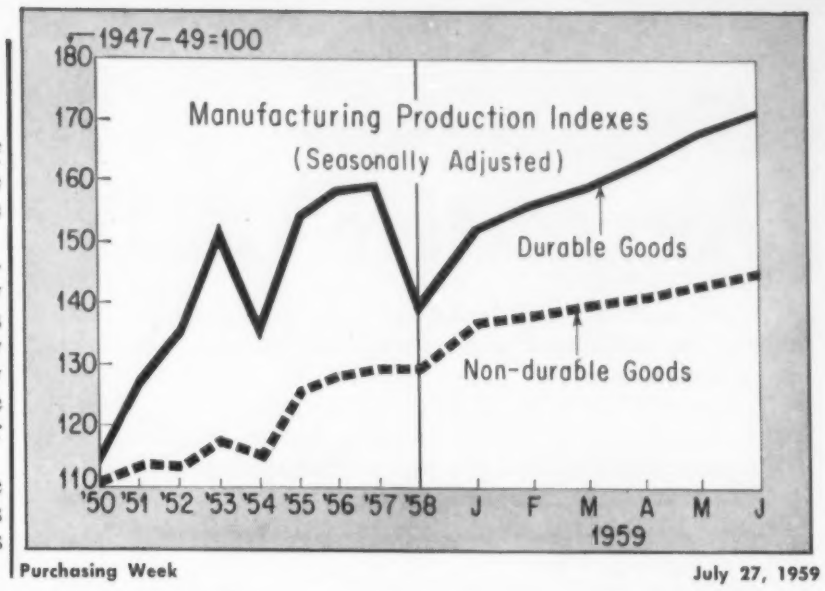
- Sales are expected to dip more than seasonally during the next two months as consumers wait to see already-announced Detroit "economy" models.

- Major retooling of some standard lines and development of the new autos may hold back the introduction dates for some 1960 models.

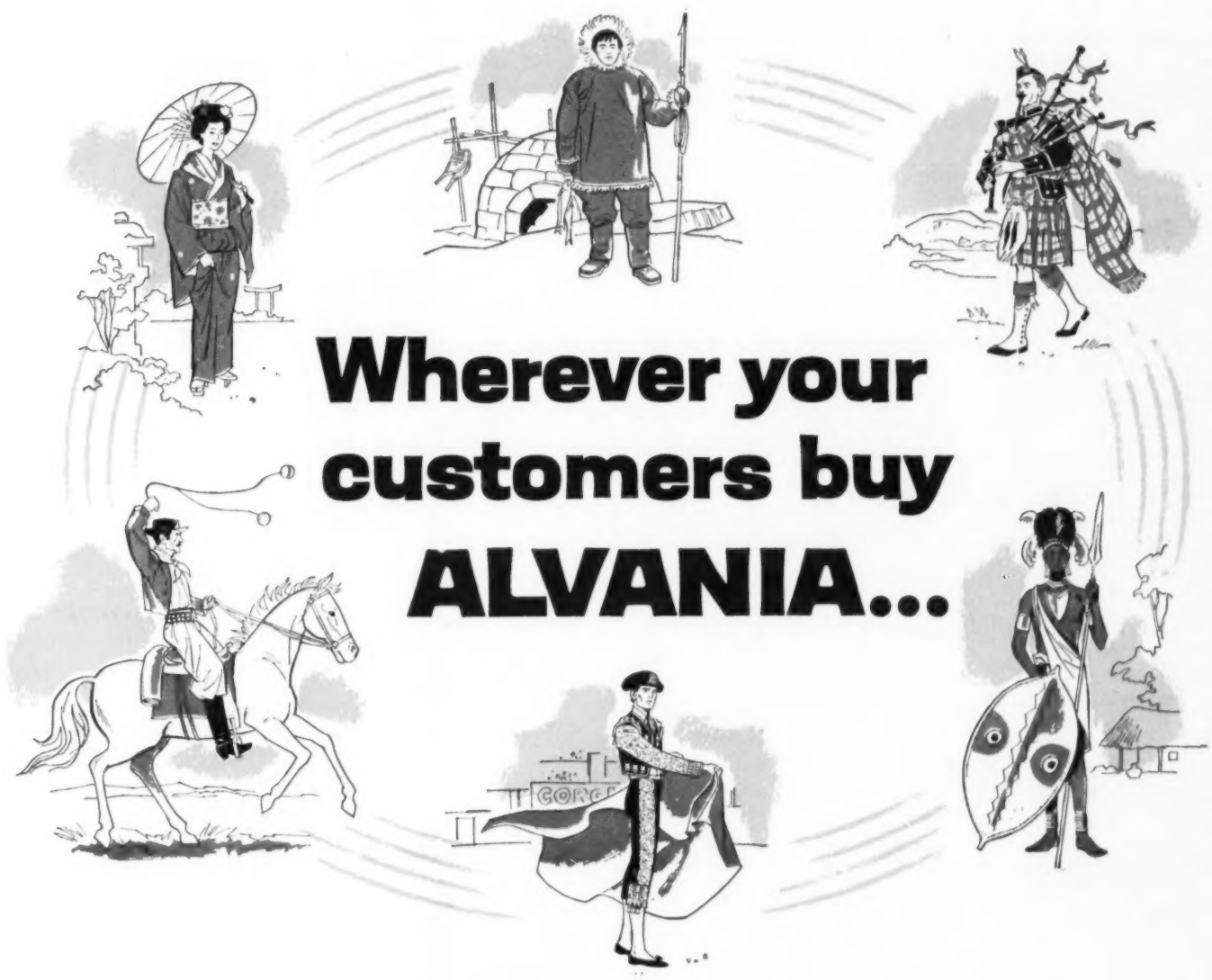
On this basis then, PURCHASING WEEK economists expect the total industrial production index to end the year between 159 and 162, quite a respectable total when we remember that the end of our most recent recession was just about a year ago. But this slowdown in the latter half of 1959 should help extend the boom well into 1960 (see Price Perspective, p. 2).

For the longer run, the production outlook for the economy is extremely bright. Rising levels of personal income and rapidly expanding population, especially in the heavy-spending teenage group, are bound to mean higher levels of production.

If unemployment can continue to be reduced, then the 1960's are likely to meet the high hopes economists have given them.



Purchasing Week July 27, 1959



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This Week's

Washington Perspective

JULY 27-AUGUST 2

A still-to-be-released Pentagon study points up the major importance of transportation analysis in purchasing operations and management.

The project was undertaken by the Military Traffic Management Agency for use by military services in improving their transportation practices in the over-all procurement picture.

But its findings are equally applicable to P.A.'s in private industries. The study drew much of its data from on-the-spot investigation of practices in private industry.

One of the key points made is that transportation analysis deserves greater recognition as a way to cut costs.

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The report stresses these major points as vital for transport know-how:

- A basic understanding of the fundamentals of transportation and the various modes at one's disposal.
- Knowledge of Interstate Commerce Commission regulations.
- A good working knowledge of freight rates, differentials, and discounts.
- A sound grasp of general economic and business trends and market conditions.
- Keeping abreast of new transportation techniques such as piggyback service, containerization and "agreed charges."
- Use of premium transportation only to meet special production or sales requirements.
- An understanding of a company's sales plans up to a minimum of three months in advance.
- An indication of how one's firm stacks up with competing firms in transport costs and availability of facilities.
- Willingness to pass on benefits to customers where possible.

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Labor reform legislation still has a lot of hurdles to clear before it gets by Congress.

The House Labor Committee gave the legislation a leg up by drafting a bill. But the highly controversial measure opened up more pitfalls in its path.

Critics contend the committee softened the Senate-passed Kennedy-Irvin bill to the point where it is meaningless.

They plan a fight to rewrite the bill with much tougher provisions in the House of Representatives.

The House Labor Committee, with liberals exercising control for the first time in years, toned down two key points in the Senate bill:

- It eliminated criminal prosecution of labor leaders for violating the rights of rank-and-file unionists. It substituted instead a provision allowing unionists to seek court injunctions to stop rights violations.
- It cut down considerably the powers of the Secretary of Labor to enforce provisions of the bill.

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The newly-appointed Secretary of Commerce, Frederick Mueller, has no intention of being merely a figurehead.

Mueller, formerly undersecretary, was elevated to the top job in a backhanded way that led to some doubts about the manner in which he would carry out his assignment. He was named by President Eisenhower as a "safe appointment" after the Senate turned down Lewis L. Strauss.

But Mueller's close associates say he intends to be a real secretary and to press his views in the Administration.

Weekly Production Records

	Latest Week	Week Ago	Year Ago
Steel ingot, thous tons	374	1,094*	1,546
Autos, units	126,848	123,147*	85,533
Trucks, units	27,650	25,706*	16,187
Crude runs, thous bbl, daily aver	7,946	7,836	7,450
Distillate fuel oil, thous bbl	12,701	11,457	11,266
Residual fuel oil, thous bbl	6,563	6,466	6,891
Gasoline, thous bbl	28,419	28,434	27,509
Petroleum refineries operating rate, %	94.1	81.0	81.0
Container board, tons	146,182	98,935	70,820
Boxboard, tons	128,559	81,424	62,954
Paper operating rate, %	70.7	73.0*	64.3
Lumber, thous of board ft	199,101	224,526	175,524
Bituminous coal, daily aver thous tons	800	1,810*	1,054
Electric power, million kilowatt hours	13,415	13,502	12,257
Eng const awards, mil $ Eng News-Rec	651.7	446.5	455.4

*Revised

Purchasing Week's
Wholesale Price Index
June 1959 103.3
May 1959 103.0
June 1958 100.0
110
105
100
95
90
January 1957 = 100
July Estimate 103.4
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N
1956
1957
1958
1959

SLOWLY RISING TREND continues to characterize Purchasing Week's Wholesale Price Index. Substantial June gains in industrial scales and industrial valves accounted for a good part of sharp rise in index last month. Textiles strengthened while lumber, petroleum products, tires, anti-friction bearings, and industrial fittings dipped in June. Spot boosts should nudge index again this month.

Office Typewriter Price Tags Expected to Show Increase of as Much as 6%

(*Continued from page* 1)

being seriously considered as an answer to slipping profits.

"Our sales have reached record highs," a company executive told PURCHASING WEEK, "but profits still are down. The best answer appears to be a price hike." If steel costs rise, he added, a minimum 6% would be a must.

A spokesman for Smith-Corona agreed that "greater sales volume is not the answer. We'd certainly like to see a price increase on standard typewriters."

The four manufacturers (including Underwood and Remington) explained that the "sales up-profits down" situation is largely the result of a stiff competitive market, and greater investments in research and development, expansion, and modernization.

"We're at the point now where we need some form of price relief," said another of the office equipment producers, "if we expect to continue at a profitable level."

None of the producers would say when the 6% hike might come, but they indicated it could be before Sept. 1.

Attention also swung to the adding machine segment of the industry last week when Victor Adding Machine Co., Chicago, announced price reductions ranging from 11.7—27.9% on its top line of custom model adding machines.

Other producers said that Victor was "going it alone" and that they planned no moves.

Victor credited the reductions to a recent rise in sales volume, plus consolidation of models. The largest reduction was $106 on an 11-column capacity, 10-key keyboard electric model. Other cuts were from $28.50 to $100.

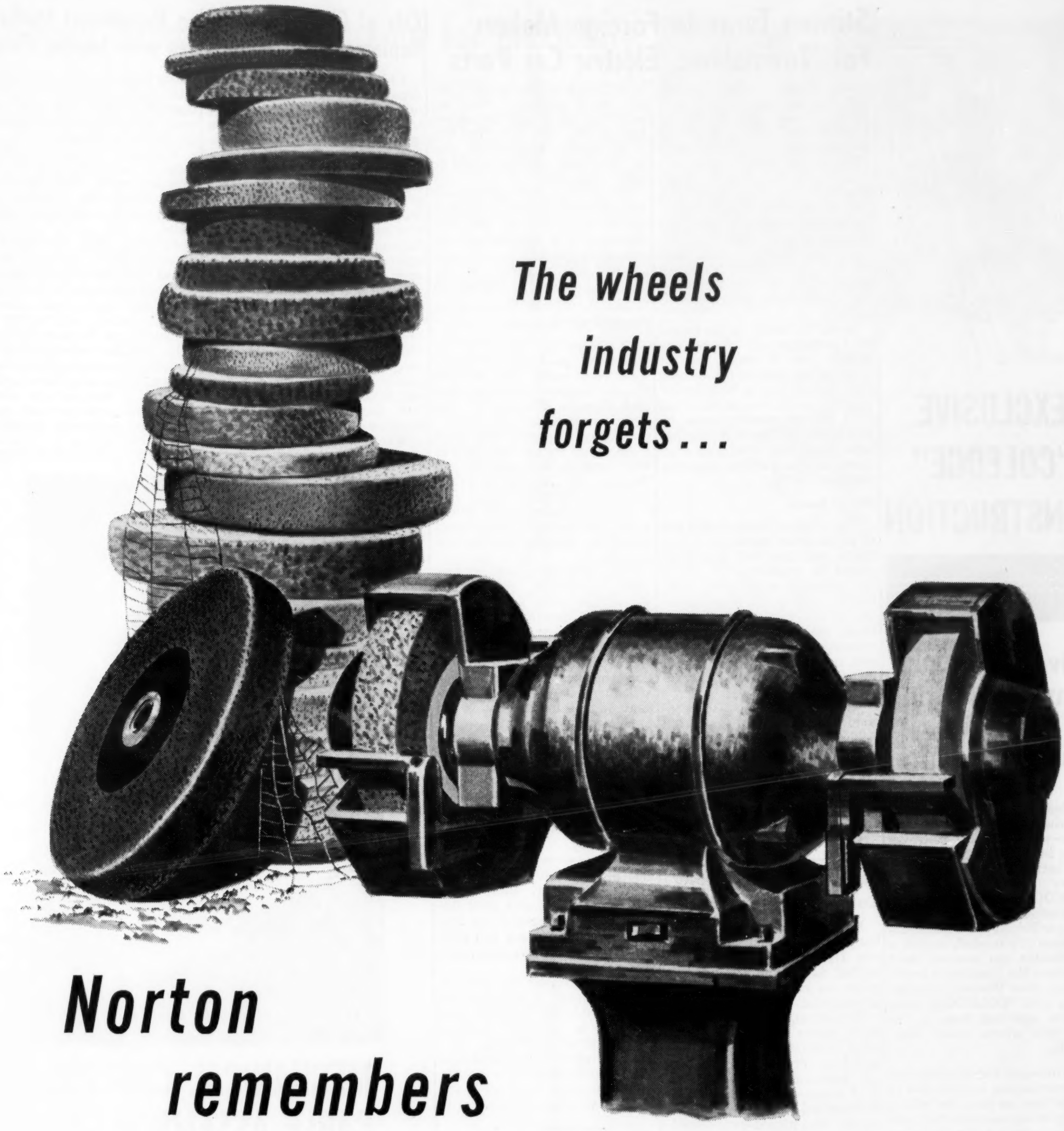
Consumer Prices Up

Washington — June consumer prices, spearheaded by a sharp seasonal rise in food, soared to 124.5 (1947-'49 equals 100)—the biggest increase in 18 months.

But with food prices due to peak out by late summer, no further boosts in living costs are expected. Prices should hover at current levels through September.

This Month's Industrial Wholesale Price Indexes

Item	June 1959	May 1959	June 1958	% Yrly Change
Cotton Broadwoven Goods...	99.7	98.5	94.1	+ 6.0
Manmade Fiber Textiles.....	99.3	98.7	97.9	+ 1.4
Leather	136.2	141.2	104.1	+30.8
Gasoline	94.0	96.7	93.0	+ 1.1
Residual Fuel Oils	73.2	75.8	77.4	— 5.4
Raw Stock Lubricating Oils..	96.7	96.7	98.0	— 1.3
Inorganic Chemicals	102.5	102.5	102.0	+ .5
Organic Chemicals	99.2	99.2	99.0	+ .2
Prepared Paint	103.4	103.4	103.3	+ .1
Tires & Tubes	100.8	102.1	102.2	— 1.4
Rubber Belts & Belting.....	103.8	103.8	99.3	+ 4.5
Lumber Millwork	106.7	106.8	98.8	+ 8.0
Paperboard	100.0	100.0	99.9	+ .1
Paper Boxes & Shipping Containers	101.9	101.9	101.9	0
Paper Office Supplies	101.2	101.2	101.2	0
Finished Steel Products.....	109.1	109.1	106.1	+ 2.8
Foundry & Forge Shop Products	107.8	106.9	104.8	+ 2.9
Non Ferrous Mill Shapes.....	96.3	96.3	90.2	+ 6.8
Wire & Cable	91.4	91.4	81.9	+11.7
Metal Containers	103.7	103.7	105.6	— 1.8
Hand Tools	109.9	109.9	107.0	+ 2.7
Boilers, Tanks & Sheet Metal Products	99.2	99.2	98.3	+ .9
Bolts, Nuts, etc.....	107.3	107.1	109.5	— 2.0
Power Driven Hand Tools...	108.2	108.2	103.2	+ 4.8
Small Cutting Tools	106.3	106.3	101.7	+ 4.5
Precision Measuring Tools...	108.9	108.9	106.1	+ 2.6
Pumps & Compressors.....	111.4	111.4	105.0	+ 6.1
Industrial Furnaces & Ovens.	116.5	116.5	111.3	+ 4.7
Industrial Material Handling Equipment	105.5	104.8	103.1	+ 2.3
Industrial Scales	115.2	104.8	104.8	+ 9.9
Fans & Blowers	104.3	104.3	103.2	+ 1.1
Office & Store Machines & Equipment	104.1	104.0	103.2	+ .9
Internal Combustion Engines.	103.5	103.5	103.5	0
Integrating & Measuring Innstruments	115.8	115.8	110.9	+ 4.4
Motors & Generators.....	103.9	104.6	104.5	— .6
Transformers & Power Regulators	101.6	101.6	100.7	+ .9
Switch Gear & Switchboard Equipment	107.9	107.9	105.7	+ 2.1
Arc Welding Equipment.....	103.9	103.9	104.9	— 1.0
Incandescent Lamps	110.0	110.0	110.0	0
Motor Trucks	109.0	109.0	105.9	+ 2.9
Commercial Furniture	105.6	105.5	105.0	+ .6
Glass Containers	106.3	106.3	106.3	0
Flat Glass	99.6	99.6	100.0	— .4
Concrete Products	103.3	103.3	102.3	+ 1.0
Structural Clay Products.....	106.4	106.3	103.3	+ 3.0
Gypsum Products	104.7	104.7	104.7	0
Abrasive Grinding Wheels...	98.7	98.7	100.3	— 1.6
Industrial Valves	116.6	104.6	101.5	+14.8
Industrial Fittings	98.3	99.1	104.6	— 6.0
Anti-Friction Bearing & Components	91.9	92.9	99.2	— 7.4



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Stinson Turns to Foreign Makers For 'Townabout' Electric Car Parts

San Diego—Production problems and high vendor costs have forced Stinson Aircraft Tool & Engineering Co. to seek foreign subcontractors for its Charles "Townabout" electric car.

Deane L. Van Noy, company president, said he is negotiating with German and Japanese manufacturers to produce parts for the all-electric sports car.

Stinson has 110 orders from all over the United States. It plans to sell the cars to utilities for $2,300 each. Retail price is $2,800.

So far the company has turned out a prototype and three running models, one of which was air freighted last week to the Atlantic City Electric Co. in New Jersey. Original production plans called for a 160-car monthly output by mid-1959, but that schedule has been abandoned along with retail marketing plans until the supplier problem is solved.

One of Seven

The Charles Townabout is one of about seven makes of electric trucks and cars that have been placed in production or are in the planning stage. (see P.W. May 11, '59, p. 6). Manufacturers of the battery-powered vehicles claim sizeable operating economies over gasoline models and are receiving backing from various segments of the utility industry.

Van Noy said prices of hardware on the Charles Townabout —electrical equipment, wheels, brakes, and instruments—far exceeded those quoted originally by subcontractors.

"They are trying to amortize their tooling costs," he said, "and we cannot afford to pay for that."

Van Noy said it cost Stinson $3,972 each to hand produce the first three models. "We expected to take a little loss on our first models," he said, "but this is too much. Even at the rate of 500 a year, the cost would be only a little less."

He said Japanese and German firms showed interest in producing the chassis, frame, and running gear. If negotiations are successful, Stinson would subcontract for the parts and continue to produce the Townabout at its San Diego plant.

Possibly All Overseas

"Later perhaps the entire car would be produced overseas," Van Noy said. Dr. Charles Graves, company vice president, said Gordon Plastics of San Diego would continue to produce the fibre-glass-plastic body even if the rest of the car were built in West Germany or Japan. He said the shell would be added to the otherwise completed auto.

Van Noy said even with anticipated customs duties foreign parts would be considerably less expensive.

"Our subcontractors produce 100% for Detroit," he said "and we get no price break on an anticipated 10,000 parts when they are thinking in terms of 2 million or more."

Van Noy said Stinson production schedules would be set back at least 45 days while the company awaited the decision of the foreign manufacturers.

The company has parts for about 70 cars at its plant, with 15 in various stages of assembly in addition to the three completed models. But no new cars will be started until the subcontract negotiations are settled by the company.

Texas Files Suit to Halt Construction Price Fix

Houston—The State of Texas has filed suit to halt what Attorney General Will Wilson describes as a conspiracy to fix prices on electrical construction in southeast Texas.

The action, instituted here last week, names the National Electrical Contractors Association and local firms in commercial and industrial construction. A local union of the International Brotherhood of Electrical Workers also was named as a defendant.

The state seeks penalties of up to $1,500 a day for the alleged violations and demands cancellation of N.E.C.A.'s charter to operate in 33 Southeastern counties.

Wilson charged the defendants practiced collusive bidding in the Houston area over a five year period dating back to 1951, allocated jobs among favorite contractors, and restricted work to association members.

Identical Bid Crackdown Pays Dividends in Texas

Austin, Texas—A Texas crackdown on firms that get together before bidding on city or state purchases is beginning to pay dividends.

For the first time in years, competitive bids instead of identical price bids were received by the City of Austin on lime for its water softener. Lime prices had gone up annually until this year when the low bid was 50¢ a ton (on 4,000 tons) less than the identical bids received last year.

Investigations by the state attorney general, backed by the Texas Municipal League, have resulted in several lawsuits against collusive bidding. Suppliers of shell for construction jobs in the Houston area already have been fined $120,000 in the first case won by the state.

5 N.A.P.A. Districts Plan Fall Conferences

New York—Five N.A.P.A. districts have scheduled conferences this fall. Three other districts will hold conferences in 1960. Only District 3 failed to schedule a session during the next year.

District 2 will open the conference season at Tulsa, Okla., on Sept. 24-25. Other conferences this fall include: District 1, Berkley, Calif., Sept. 25-26; District 7, Chattanooga, Tenn., Oct. 11-13; District 9, Springfield, Mass., Oct. 15; and District 6, Dayton, Ohio, Oct. 30-31.

District conferences for 1960 are: District 4, Lansing, Mich., April 21-22; District 5, Washington, D. C., Oct. 14-15; and District 8, Albany, N. Y., Oct. 20-21.

City of Chicago Purchasing Department Studies Replacement of Motorcycles with Smaller Cars

Chicago—The city purchasing department is gathering statistics on how much could be saved by replacing three-wheel police motorcycles with small, compact cars.

John Ward, Chicago purchasing agent, said the idea developed at a recent executive meeting of the National Institute of Governmental Purchasing in White Sulphur Springs, W. Va. He ordered the study immediately upon his return.

Ward said the small car was a hot topic at the N.I.G.P. meeting.

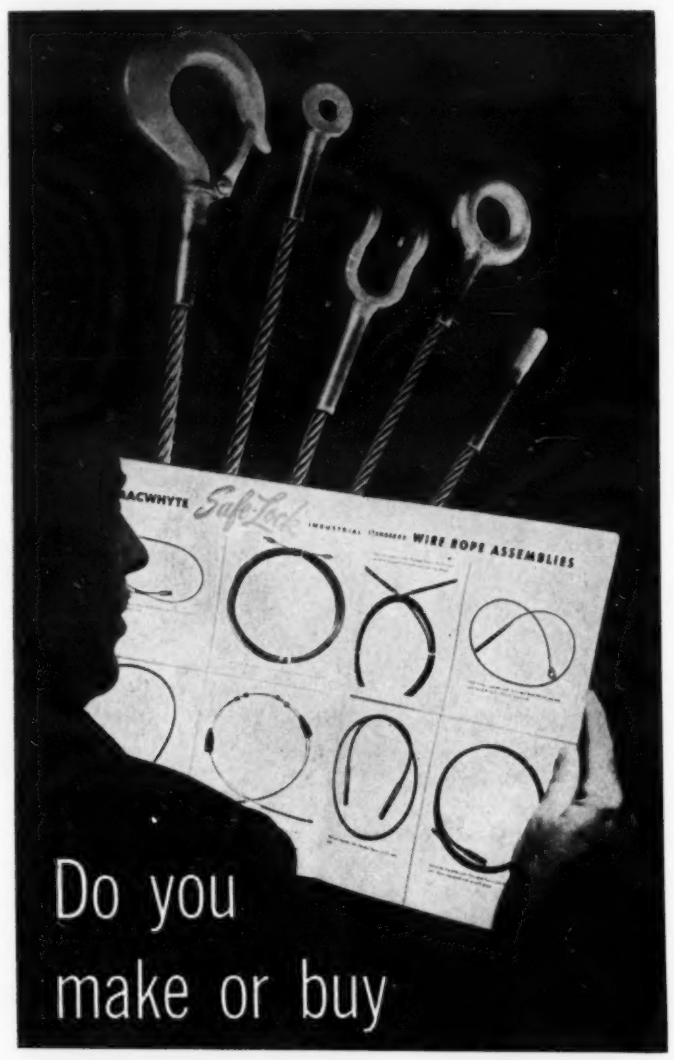
Among those reporting recent small car deals were Cincinnati and Dade County, Fla., both involving Lark fleets, and Richmond, Va., which was considering Volkswagens. Other cities and local agencies reported Rambler purchases, Ward said.

Ward explained that Chicago's police force has 576 three-wheel motorcycles, which have an initial cost of $1,685 each. He said some small cars can be purchased for $1,500 to $1,600.

Whereas cycles have a trade-in value of only $50 to $150, the cars are worth $400 to $700, their mileage life is higher, and maintenance costs lower, Ward added.

Albert H. Hall, executive vice president of the National Institute of Governmental Purchasing, also told PURCHASING WEEK that more and more local governmental agencies are turning to the smaller car for their needs.

He said that while some governmental purchasing agents were waiting for the "Big Three" automakers' versions of the small car, others were moving right ahead in purchasing Ramblers and Larks.



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Railway Express Reorganizing for Flexibility

New York—Purchasing agents can look forward to a sounder, more dependable, and more flexible Railway Express Agency, continuing in business under railroad ownership.

At a special meeting in Chicago July 16, the agency's 178 rail owners voted unanimously for a broad reorganization plan. The new plan is expected to pump new life into the controversial deficit operation. The plan will become effective the first of August, following Interstate Commerce Commission approval.

William B. Johnson, Railway Express president, said a revitalized express operation will assure express shippers everywhere "of having available—on a convenient, flexible, and coordinated basis—the best of all underlying modes and routes of transport."

R.E.A. appeared doomed to abandonment last year when the New York Central Railroad, the agency's largest stockholder, announced it would withdraw from the business because of substantial deficits incurred from express operations. Other roads also toyed with the idea.

At last week's meeting, however, the Central was one of the strong backers of the reorganization plan. Afred E. Perlman, Central's president, said the carrier would stick with R.E.A. because of the "tremendous effect" a management reorganization has had since last December.

He also pointed out that changes proposed in the new standard operating agreement "should result in a more equitable distribution of the agency's revenues."

The Chicago & North Western Railroad, however, while voting for the plan, said it would sell its stock in R.E.A. and withdraw from the agency. The North Western, which opposed the new financial arrangements, said it will continue making facilities available to the agency for the transportation of express shipments.

When first announcing the reorganization plan earlier this month (see P.W., July 6, '59, p. 1), Johnson said the agency would be given immediate complete freedom of line-haul routing of express traffic with the power to select such routes and modes of transportation most advantageous to more efficient and economical operations.

EXPRESS SHIPMENTS such as these will continue uninterrupted now that the railroads have voted to reorganize the Railway Express operations.

Hoffa Expects to Get Truckers Unionized

San Francisco—Teamster Union President James R. Hoffa expects to get moving by next summer in his campaign to put all the nation's truckers under a national contract.

The Teamster president, who revealed some of his strategy at the Western Conference of Teamsters here two weeks ago, also said another goal is organization of semi-skilled workers in the electronics industry.

Hoffa's truckers now deal with employers under many separate regional contracts. Any attempt to obtain a national contract would increase the possibility of eventual nationwide transportation tieups.

Actual strategy planning for the national trucker contract campaign will begin next year in Chicago, according to Hoffa. As for the electronics workers, Hoffa told PURCHASING WEEK that the union has not yet set up an organization committee for this purpose. He further intimated it would be at least two years before any such effort is launched.

But Hoffa made it clear that the Teamsters eventually would try to organize semi-skilled electronics workers into the Teamsters' Union.

In discussing plans at the union conference, Hoffa reiterated the Teamsters' goal of organizing all unorganized workers. Along with the electronics group, others high on the Hoffa list include those employed by food chain stores, department stores, and airports.

The union actually has progressed measurably along that line with its truck drivers despite the absence of a nationwide contract.

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A Purchasing Week Profile

Sidney Davidoff—Professional Musician Turned P.A.

MUSIC MAN, Sidney Davidoff, relaxes by playing violin when away from busy desk.

Ever since he was six years old, Sidney E. Davidoff, 57, P.A. for the Republic Pipe & Supply Corp., Boston, has been in tune with things.

It wasn't easy for the youngest of nine children in those days but an older brother who knew how to play the violin gave Sidney lessons. "More or less hand-me-down lessons," he recalls. After a while, the youngster learned all his brother could teach him, and he began taking lessons from a regular teacher.

At the age of 16 and just out of high school he began to play professionally in the pits for traveling vaudeville shows and silent movies. "I'll never forget 'Hearts and Flowers,'" he says. "It was a must in those days," and his eyes lighted up as he recalled playing his violin accompanying a tender love scene.

Using savings from his earnings for theatre engagements, Sidney later studied composition in Italy for seven months. On his return he played at top houses for the biggest names in show business.

In the 1930's, show business, as well as everything else, was at its lowest ebb.

Sidney had married a violin pupil of his, a lovely young girl named June, and there were children. Music alone would not support his family at this time, so he went to work behind the counter at Republic Pipe & Supply.

But, he never gave up his music as he rose through the ranks to become the company's purchasing agent.

He and his wife raised three daughters, Evelyn, Judith, and Edith. They supervised their children's musical education and today, Evelyn is proficient at the piano; Judith is a professional cellist, and Edith plays the violin, viola, and piano.

Many an evening, father, mother, and three daughters share in a relaxing session of chamber music.

Sidney is musical director of several choral groups in Greater Boston, and whenever he spots anyone with an interest in music, he gives that individual undivided attention.

There is a tie-in between purchasing and music, according to Sidney.

"It's in the handling of people," he says. In conducting and with his choral groups, Sidney handles people from 6 to 60 years old and is able to carry over the same diplomacy he uses with his music groups into the purchasing field.

"Every little dot represents something in music," he says. "This has been of great help to me in planning my inventory control cards, pointing up to me the meticulous care needed in both. Music is an exact science, so is purchasing."

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This Changing Purchasing Profession . . .

J. R. CADE

J. Robert Cade, purchasing agent for **Southern Pacific's** Western territory, has been advanced to assistant general purchasing agent for the railroad. At the same time, **George C. Freeborn** was made purchasing agent—Pacific Lines. He will direct purchases and stores activities in the territory west of El Paso.

Cade, who joined the firm in 1920, held various posts in accounting, engineering, stores, and purchasing until December 1957 when he became purchasing agent.

D. R. GARRETT

D. Ray Garrett has been promoted to director of purchasing and traffic for **W. P. Fuller & Co.,** San Francisco. Assistant purchasing agent since 1956, he succeeds **A. H. Luebkeman,** who retired July 1 after 49 years with the firm. Garrett began his business career in the accounting field as a division auditor.

Ulysses S. Violette has been advanced to director of purchases and product service by the **Iona Mfg. Co.,** Manchester, Conn. He had served as plant superintendent the past three years.

U. S. VIOLETTE

C. R. WENSLEY

C. R. Wensley has been appointed assistant purchasing agent of **Bell Helicopter Corp.,** Fort Worth, Texas. Formerly supervisor of outside production, he will oversee outside production and research and development functions in his new post.

R. N. Hudson, formerly assistant to the treasurer, has been made purchasing agent at **Alvey Conveyor Mfg. Co.,** St. Louis. He succeeds **M. E. Woodruff** who resigned to become a manufacturers' representative.

Richard Calkins, assistant purchasing agent, succeeds **Donald Burgoon** as purchasing agent for **Dunbar Industries,** Toledo. Burgoon has been appointed production manager.

W. R. Terry has been named manager of purchasing for **Westinghouse Electric International Co.,** New York. He succeeds **R. M. Crowley,** now assistant director of the consumer products sales division. Terry had been manager of international research and planning in New York the last six years.

Richard H. Brill has been promoted from assistant district purchasing agent to district purchasing agent at **Aluminum Co. of America's Vernon Works,** Calif. He succeeds the late **Rex M. Price.**

Clarence E. Hills has been made chief buyer at the **Falk Corp., Milwaukee.** He succeeds **Henry F. Mixter,** who has been transferred to a special assignment on the works manager's staff.

Obituary

James R. Cully, 61, former purchasing executive, died July 3. He retired four years ago as purchasing agent and mechanical draftsman for the General Lead & Battery Co., Newark, N. J.

Purchase for Profit!

Specify Chicago Molded

Linear polyethylene replaces brass in this deep-well pump component injection molded by Chicago Molded for Red Jacket Manufacturing Co. By applying the right plastic material and molding method, CMPC solved a long-standing corrosion problem and improved pump efficiency. Cost—a fraction that of brass with finishing eliminated. By any measure of value analysis, this is *purchasing for profit!* Your part cost problems are our business—call, *specify:*

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This Week's

Foreign Perspective

JULY 27-AUGUST 2

London—Steel prospects here are as bright as the outlook for industry in general.

British steel industry harbingers all are pointing to real recovery. Figures to date show that the rate of output for the second quarter of 1959 was back up to the 1958 level. Output is running at more than 80% of capacity. Domestic consumption, too, seems to be steadily rising.

That's encouraging. But there's another side of the story; It's highlighted in the just-published report of the United Kingdom Iron & Steel Board, which takes a cautious view of immediate steel prospects.

The steel board's three main conclusions are:

- Output this year has little hope of measuring up to capacity. It is likely to reach 20 million tons. The capacity figure is 24.5 million tons.
- Inventories still are being depleted and—though that indicates higher consumption—the depletion is likely to continue for some time.
- Exports haven't been doing so well.

The report isn't all gloom, though. **It does say that any change in industry plans about future steel requirements could set off a sudden rise in orders. That would be strengthened by the current high level of demand for consumer goods plus plans for increased state investment.**

• • •

Moscow—Russia is stepping up its trade penetration in the critical, uncommitted areas of Africa.

The latest involves a deal calling for shipment of petroleum and industrial goods to Ethiopia. The Ethiopian Embassy spokesman in Moscow told McGraw-Hill that the oil part of the deal would be restricted to diesel fuel and gasoline.

The list of the goods for export from Moscow to Ethiopia also includes "diversified" machinery and equipment, precision tools, rolled ferrous metals, automobile tires and tubes, medicines, pharmaceutical goods, cotton fabrics, and films.

Ethiopia will ship coffee, hides and skins, ground nuts, oil bearing seeds, and other traditional Ethiopian exports to Russia.

In addition to the trade agreement, the Russians said that they would grant Ethiopia long-term credit of 400 million rubles at low interest rate for purposes of industrial and agricultural development.

• • •

Warsaw—Poland is expanding its trade with the West.

Much of it is being directed toward the United Kingdom. However, other countries, including the United States, also are involved. In fact, negotiations with American officials now are going on. New credits may soon be available to Poland.

Poland, in the last few weeks, has placed contracts worth $14.6 million with British producers. Most of this involves heavy industrial equipment.

One big order for 30 British locomotives is particularly significant. It represents a direct about-face in Polish policy as far as locomotives are concerned. Until now, much of Polish rolling stock had been coming from East Germany. But poor quality and delivery performances have given Polish officials a change of heart.

This deal marks the first quantity purchase of Western rolling stock. Deliveries from fellow-Communist countries, meanwhile, have stopped.

• • •

Cairo—Japan continues to aid Egypt in its attempts to build a strong, diversified economy.

The latest such step involves Japanese aid in setting up the first frozen food processing plant to be constructed in the Arab world.

Initial output will be limited to packing sardines and shrimps. **According to officials here, there is a promising export market for these products in the United States, Italy, Switzerland, Greece, and France.**

Canning, dehydrating, and freezing equipment is being imported from a Japanese firm—under the recently concluded $30 million Egyptian-Japanese extended credit agreement. Japanese technicians will set up the plant in Port Said.

Industrial Exhibitors Shine at Chicago Fair

Chicago—Industrial exhibits probably will receive greater emphasis if the Chicago International Trade Fair, considered a smashing success this year, is repeated in 1960.

Buying and inquiries ran strong for the handful of industrial exhibitors at the 1959 fair which closed last week after 16 days of bustling activity. Most of the participating nations stressed consumer items, handicrafts, and similar luxury and non-industrial goods.

But for Barney Small, head of an import firm which showed a Japanese-made metal threading machine, it was the "best exhibition I've ever been in," including a national machine tool show in which he participated at Chicago several years ago.

Small said he received tentative orders for around 30 of the machines, each a $10,000 item, plus hundreds of inquires. Before the fair opened, Small's firm had sold only 16.

Poland, the other country that emphasized industrial rather than consumer products, also was a satisfied exhibitor.

An enthusiastic Polish export sales official, M. Pawlus, said nine types of Polish-made machine tools displayed at the Polish pavilion were a big hit. He had buyers for most, if not all, of the machines long before the end of the exhibition, plus more than 100 "firm" inquiries from other buyers and importers from throughout the country.

Pawlus sold most of the machines, $45,000 worth, within the first few days of the exhibition. "The response was above our expectations," he said.

The Polish machine tools included automatic screw machines, milling machines, a hydraulic cold metal saw, a turret lathe, and an engine lathe.

Exhibition managers indicated that if the fair is repeated next year, additional days would be devoted exclusively to buyers.

Surplus Australian Styrene Monomer Output Predicted

Melbourne—Local experts are predicting a surplus of productive capacity in Australian styrene monomer. Industry observers here point to the possibility that both Dow and Monsanto may have to export the petrochemical from Down Under on a below-cost basis.

Monsanto's recent decision to begin styrene monomer manufacture in a new plant at Silverwater in 1961 suggests the sizeable surplus which is expected here.

Russia Claims 1970 Cotton Production 9-10 Million Tons

Moscow—Soviet Union will be the world's leader within 10 to 15 years in per capita production of cotton fabric and cotton fiber, according to a high official in Uzbekistan Republic (Russia's principal cotton province).

Mirzavali Mukhamedjanov, vice chairman of the Uzbek Council of Ministers, told a U.S.S.R. conference on cotton selection and seed-growing that Russia will be producing nine to ten million tons of raw cotton annually in the 1970's—two and a half times present production. The increase will result from advanced farming methods, he said.

Sogemines, Ltd., Plans Erection Of Chemical Plant in Ontario

Montreal—Sogemines, Ltd., of Montreal will start construction this summer on a $17 million chemical plant at Maitland, Ont., to produce ammonium nitrate, nitrogen solutions, anhydrous ammonia, and hydrogen. Anhydrous ammonia and hydrogen will be supplied by pipeline to the neighboring Maitland Works of du Pont of Canada, Ltd., under a long-term contract.

Alberta natural gas will be the principal raw material used at the plant which is expected to begin operations in early 1961.

Another PLUS value...

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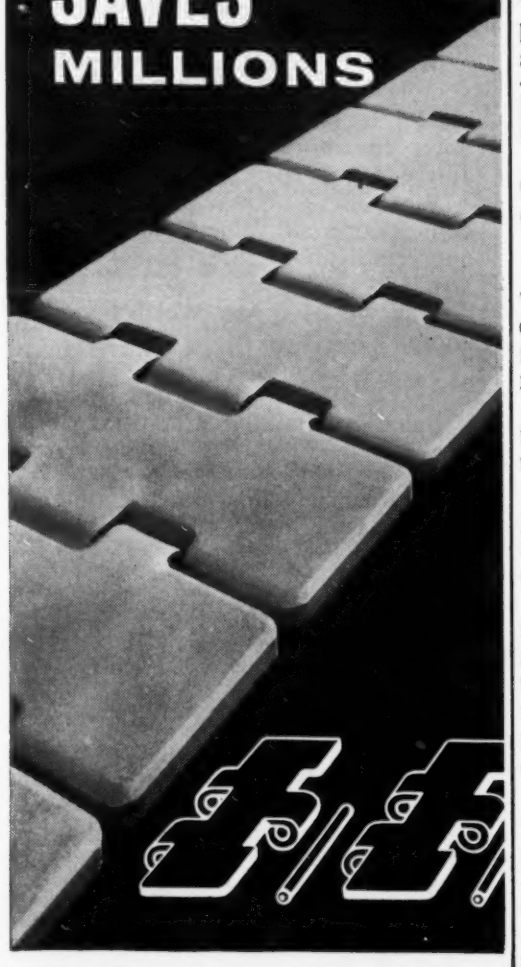

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Purchasing Week

330 West 42nd St., New York 36, N. Y.
McGRAW-HILL'S NATIONAL NEWSPAPER OF PURCHASING

Vol. 2, No. 30 | JULY 27, 1959 | Print Order This Issue 25,938

Help Build Your Firm's Reputation

"Corporate image" may be a phrase that smacks of Madison Avenue and you may be allergic to such ear-catching phrases but you just can't afford to ignore these two facts:

1. Thousands of man-hours and millions of dollars are spent each year by hundreds of corporations with a single objective: to create in your mind a favorable image of those corporations.
2. As a purchasing man, whether you're part of a small or a large company, you should play a major role in helping create a favorable image.

Of course, corporate image can mean many things to many people. Basically it's what others think of a company. But, you're never going to help put across your company's image until you yourself understand it.

Can you describe your corporate image in more specific terms than "favorable?" or "We want everyone to like us?" You'll find you can be more objective in thinking about the corporate image of other firms than your own.

For example, think back to the last visit you made to a supplier. After your visit what image did you have of that corporation? Do you now think of that company as one that puts greatest emphasis on craftsmanship? If it were a machine tool company, you can bet that the company wants you to think of it as a firm that goes to every conceivable limit to make sure that everything is correct to the closest of tolerances; on the other hand, if it were a company producing widgets, it's very possible that the company hoped to create for you an image of streamlined efficiency that results in mass production at favorable prices.

These are only two examples of corporate images. There are scores of others. What the image is depends first on the audience at which effort is being directed. That audience can be a firm's customers or its suppliers; it can be the community in which a company has a plant; it can be the corporation's employees; it can be the general public or just a specific part of the public. Obviously, there is an over-all good public relations effect if all and sundry know your company has ideal employee relations but the ones who are most directly affected are the employees. They are the ones who will aid in producing a better product more efficiently if they have an image of a fair company that is interested in them.

Once you have determined what your corporate image is, then you have the responsibility for helping create that image in others' minds. If your corporate goal is not clear in your mind, don't hesitate to bring up the subject at your next management committee meeting. It may not be clear in the minds of others and this may be a good time for a statement of policy. And, even if it is clear to others, a reiteration of policy never hurts.

How do you help build your corporate image? There isn't any one thing you should do; everything you do helps create a picture. It isn't enough that it be a "favorable" picture; it must be the corporate image that all in your company are striving to build.

Yes, corporate image may be a high falutin' sounding phrase and maybe you'd rather substitute the more restrictive term "reputation" but there's no substitute for your contribution. Only you can make it.

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Your Follow-Up File

Does Good Job—Cheaper

Kansas City, Mo.

We refer to the article "Painting Costs Sink" (July 13 '59, p. 1).

We would appreciate learning what type of material was used for this particular job that would cost 21¢ a gallon.

We find it difficult to believe that material of good quality can be purchased for this amount of money. Also, when comparing the cost of this material with paint, are you comparing equal quality?

We have had considerable experience with the cost of maintaining steel storage tanks, and, if the job quality has not been sacrificed to obtain this reduction, we would certainly be interested in the material and the spray technique.

J. D. Keller
Buyer
Great Lakes Pipe Line Co.

Greensboro, N. C.

Can you provide further information concerning maintenance painting at the Jersey Central Railroad mentioned in the short article on the first page of your July 13 issue.

I am particularly interested in the compound costing 21¢ per gallon.

E. N. Pearce, Jr.
Purchasing Agent
Carolina Steel Corp.

Greensburg, Pa.

Can you tell us who the manufacturer of this product is?

Samuel Scott
Vice President—Purchasing
Scott Electric Co.

● The compound, #55 asphaltic oil, is a product of Texaco, Inc., New York.

As for quality, officials at the Jersey Central Railroad feel it will last 10 to 12 years.

Insured Unemployed Used

Detroit, Mich.

In going through the June 29 issue, I noticed with interest the center spread on "Unemployment" (p. 12).

I thought this was an extremely good job on its graphic layout; it gave a thumbnail sketch on employment recoveries throughout the country.

However, I believe the figures are somewhat in error, particularly in block number three that reports the unemployment in various states throughout the union.

Specifically, this block shows unemployment in Michigan as being at 58,000. According to the June 16 issue of Michigan's Labor Market, the official organ of the Michigan State Employment Service, the total unemployment in Michigan in April was 310,000 or 10.6% of the total labor force.

I am told by reliable authority that this is now probably down to about 260,000 with at least 140,000 unemployed in the city of Detroit alone.

A Reader

● Our slip-up came in not using the word "insured" as opposed to the total unemployment figures you referred to. We were forced to use the insured unemployment figures because they are the only ones available for each state.

Barge Tests Stir Interest

Tulsa, Okla.

On page 9 in your June 29 issue you pictured: "Flexible Nylon Barge Called Fit for Deep Sea Runs."

We are very much interested in the possibilities offered by this means of transportation. Any additional information you supply us will be appreciated.

E. O. Bennett
Purchasing Agent
Dowell Division of the Dow Chemical Co.

● We suggest you write to National Research Development Corp., 1 Tilney St., London W I, England. The development of the barges has been carried out by Dracone Developments under its sponsorship.

Nomographs of Value

Baltimore, Md.

We have noted and studied the inventory management nomographs article ("Use These Nomographs to Help Solve Inventory Management Snags," July 6 '59, p. 16).

We believe they can be of great convenience and value to us and would appreciate about three copies of this article.

May we have Mr. Welch's mailing address?

I. Levin
Plant Engineer
Baltimore Paint & Chemical Corp.

● Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave. South, Minneapolis, Minn.

Appreciated the Plug

Searsport, Me.

Greatly appreciated was your article in May of our plans here in Maine to organize a purchasing association ("Maine P.A.'s to Form Group; Plan Meeting," May 11 '59, p. 22).

Your article generated considerable interest as evidenced by remarks from many outside of the state.

Douglas K. Cooper
(Secretary, Maine Purchasing Agents Assn.)
Purchasing Agent
Northern Chemical Industries, Inc.

To Our Readers

This is your column. Write on any subject you think will interest purchasing executives. While your letters should be signed, if you prefer we'll publish them anonymously.

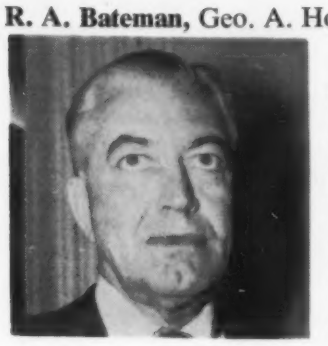
Send your letters to: "Your Follow-Up File," PURCHASING WEEK, 330 West 42nd St., New York 36, N. Y.

PURCHASING WEEK Asks You . . .

Do you agree that invoice approval is a purchasing department function? Why?

Asked at: The N.A.P.A. Convention in New York.

R. A. Bateman, Geo. A. Hormel & Co., Austin, Minn.

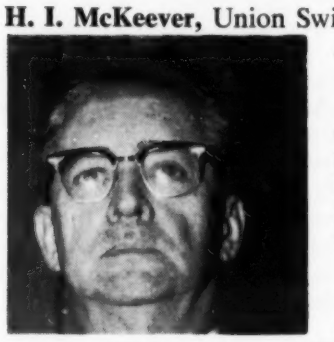


"I believe purchasing agents should individually check invoices against receiving records and okay them against the merchandise they personally purchased. It is a function that should be kept within the purchasing department and not delegated to accounting. The accounting aspects of the invoice are checked by our accounting department before it is forwarded to purchasing for final payment approval."

B. G. Erikson, Signode Steel Strapping Co., Chicago

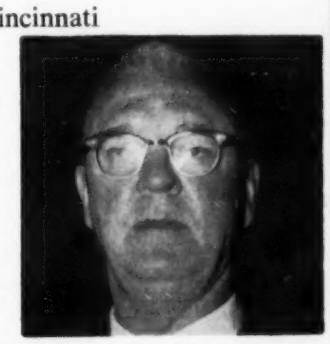
"There are two schools of thought on this; namely, it depends on whether the purchasing agent is under the direction of the financial management or under the direction of the manufacturing end of the business. It is principally an accounting function. The purchasing department can give the accounting department all the information it needs to do this clerical function."

H. I. McKeever, Union Switch & Signal, Division of Westinghouse Air Brake Co., Pittsburgh



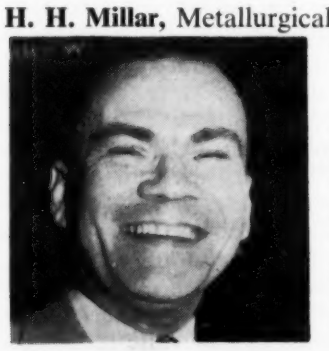
"Definitely. Receipt of an invoice, correct in every particular, is not only notification to purchasing that shipment has been made but also is necessary to show the purchase contract has been properly fulfilled. Invoice checking by purchasing avoids extra paper work, lost motion, unnecessary expediting and payment of incorrect invoices."

J. R. Butcher, Cincinnati Shaper Co., Cincinnati



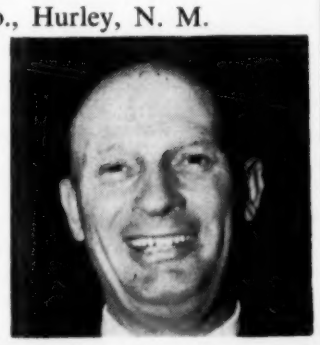
"Who knows better than the purchasing department if the price is right? In our company it is a purchasing function. We check all invoices and extensions. However, I think it depends on many things, particularly on the size of the company. I would say definitely yes for the small company. For the bigger company, I think it should be an accounting department function."

H. H. Millar, Metallurgical Products Department, General Electric Co., Detroit



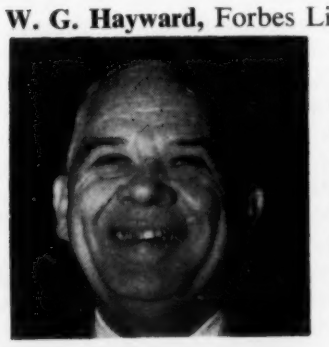
"I agree. The buyer or purchasing man is responsible for the expenditure of money. If there is any difference between the billing and invoice price, it should be his responsibility to approve or disapprove the invoice. If there is a price difference, it should be his obligation to find out why, so he may be guided in future purchases."

C. N. Dempsey, Kennecott Copper Corp., Hurley, N. M.

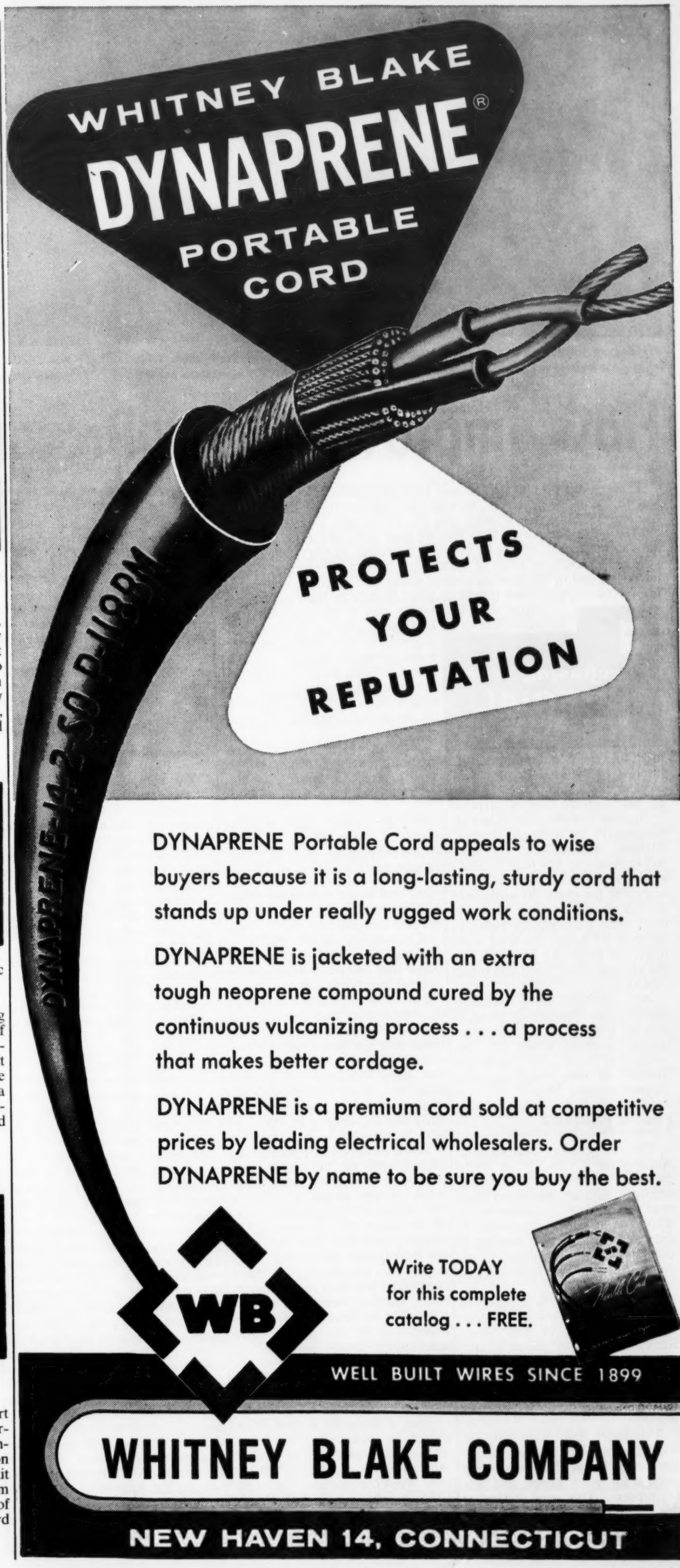


"Yes—for the simple reason that in our company it is our way of knowing that the material has been received. It is our receiving method and also we can check the price to make sure that this is correct. I follow this policy. Invoice approval belongs to purchasing and invoices should be processed by purchasing first."

W. G. Hayward, Forbes Lithograph Mfg. Co., Boston



"Positively. In my opinion it is part of the contract. Presumably the purchasing department has supplied or indicated the cost of the components on the purchase contract. I would think it would be responsible for obtaining them within that price and the fulfillment of this is to see that the invoice is in accord with the contract."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MASS PRODUCTION techniques in computer manufacturing bring computers within range of smaller budgets. Here, eyeletting machines perform 60,000 operations per shift.

PUNCHED CARD EQUIPMENT is still the work horse for mechanized purchasing and inventor punch (left), sorter (behind girl), and accounting machine (right) make up basic unit (wit

How Improved Data Processing Affects You, Y

There is a good chance you and your job will be affected in some way this year, or next year, by improved processing of data in your company. This is true whether you are a P.A. with a large, medium, or small-size company. It is true if your company now processes data and prepares reports by manual, electrical, or electronic means.

Managements, in need of better reports for operational control purposes, and in an effort to control rising clerical costs, are searching for better ways and means to process data in their companies.

★ **Purchasing Week SPECIAL REPORT**

Better data processing can mean anything from improvement of an existing manual procedure to the acquisition of a large-scale electronic computer system. It can be a cost as little as $5 for a paper-saving employee suggestion to a multimillion dollar investment for an integrated electronic computer complex.

Experts are in general agreement that the two dominant and compelling reasons for management interest in better data processing are: **1.** need to control swelling clerical costs, and **2.** need for better, faster, and more information for management control purposes.

Reason number one, need of control of clerical costs, is set in perspective by a recent special committee report of the National Planning Association; "To cope with ever-increasing piles of paperwork, business has had to hire ever-increasing numbers of clerical workers. Where there was only one clerk for every 30 workers in the shop and factory in 1900, there were 12 clerks by 1950. In the past 25 years, the total work force has increased by 50%, but the clerical work force has quadrupled."

Also, recently the government reported the number of production workers in all U. S. manufacturing increased about 1% between 1947 and 1957, while the number of non-production employees jumped 55%!

Flood of Paperwork

The American Management Association (A.M.A.) in 1956 estimated that $60-$70 billion annually is paid by American business and industry for paper work. This cost of paper work exceeds the sales of the largest industry in the nation—the construction industry this year will have sales of about $55 billion.

But the big jump in numbers of office workers has not given management control of the "ever-increasing piles of paper work." According to A.M.A. Special Report No. 11, just cited, only 5% of managements know what are their present costs of doing paper work.

This latter claim highlights the second reason for management's interest in better data processing —need for more, faster, and better reports. This need is due to the faster, more complex tempo of business; to more intense competition, both domestic and foreign; and to the harrowing threat of obsolescence in an era of feverish research activity.

Cost-control expert Phil Carrol has translated this need for quick and complete management control into profit and loss terms. "If an error is costing a company $1,000 a day, and management receives only monthly reports, the error may not be known and corrected until up to a $30,000 loss has been sustained. If modern data processing techniques and equipment give management a daily report, only a $1,000 loss may be suffered."

While relatively few purchasing departments are yet using computers, it is well to trace computer growth to get a grasp of the intensive management interest in better data processing. It is computers that snap the whip on lesser data processing techniques and equipment. As more computers are used in data processing smaller companies will be compelled to improve their data processing at the manual and mechanized levels in order to meet competition.

Computers Everywhere

Also, a computer is very likely nearer to purchasing use than realized by most P.A.'s of smaller companies. According to "Business Week" magazine, "in early 1954, it was estimated that perhaps 50 companies could eventually use electronic brains." Today, it is estimated there are over 2,000 computers in use in industry!

There are solid reasons why computers are nearer wide use than most realize.

Computers are becoming more compact, efficient, and less costly. Hardly a week goes by without an announcement of an advancement made by the inventive and aggressive computer manufacturing industry.

More liberal computer rental arrangements, and availability of second-hand computers due to the rise of a used equipment market are other reasons computers are near.

Data Process Centers

Lastly, it must be remembered, you don't have to own, or even rent, a computer to have one used on your problems. Use of data processing service centers by companies of all sizes is daily increasing as service becomes simpler, faster, and more economical.

Stanford Research Institute reported yearly sales of electronic data processing equipment, "rose from nothing in 1940 to $25 million by 1953, and are expected to be $500 million by 1960." Other estimates place 1960 computer sales at anywhere from $1 billion to $2 billion. Included in these latter sales figures are those for computers to be used in scientific and engineering applications, and in plant and refinery automation.

Some P.A.'s may appreciate management's interest in better data processing but still not appreciate the role they, as P.A.'s, may play in understanding, applying, and promoting better data processing in their companies. One P.A. was heard recently to remark, "Data processing is a subject best left to controllers and office managers."

This attitude, held by possibly very few purchasing men, is refuted by the action of the N.A.P.A. in establishing a Data Processing Committee in 1957. The vital role of controllers and office managers in data processing is not denied by most P.A.'s, but neither is the P.A.'s stake in better data processing ignored.

Based on testimony of office analysts and consultants, and P.A.'s who have been through transitions in data processing, there are two aspects to the P.A.'s stake in better data processing—departmental and company-wide. He must be both up-to-date and forward looking.

In the first area is the P.A.'s need to know all about his own departmental data processing procedures and problems. He should be able to evaluate equipment that may be suitable for use in his department.

In the company-level consideration the P.A. should have a practical understanding of the company-wide data processing operations and equipment. There is much an alert P.A. can contribute to a company interested in improving its data processing system. There is much the P.A. can gain from this contribution.

Little I.D.P. So Far

Relatively little I.D.P. (integrated data processing) has been applied to purchasing and inventory operations as yet. Chief target has been payroll, order-invoice, and sales statistics. But the clerical aspects of purchasing —from requisition to closed order file—are a logical target for further rapid application of greater automation. In many of those cases where degrees of automation have been applied to purchasing, clerical tasks have been lessened, department and buyer efficiency increased, budgets trimmed, and buyer prestige raised.

Less Clerk Work

When the Lockheed-Georgia plant (see P.W., Mar. 30, '59, p. 14) automated purchasing follow-up procedure, 25% of all buyers' time was relieved for more constructive work than thumbing through follow-up files.

When I.B.M. used one of its own computers in purchasing at its Poughkeepsie, N. Y., plant it achieved the following benefits between July 1957 and February 1959: personnel reduced from 96 to 70, while requisitions handled increased in the same period from 600 to 1,200. In the personnel reduction of 26 persons only three were buyers—they dropped from 37 to 34. These three men left the department through normal attrition. Requisitions handled per person rose from 6.2 to 17.1 during this period.

Says N. J. Condon, I.B.M. plant purchasing consultant, "Automation in purchasing has done more than anything else to raise the prestige of the department and the function. Automation lets us work ahead of the production and general departmental requirements, and we are ready for them. This has favorably impressed those who send requisitions to purchasing — and that's practically every department."

Inventory control, closely tied-in with purchasing, even in companies where the functions are

Forms of Data Processing

E.D.P. (electronic data processing) involves processing of data in which data are stored either magnetically or electronically.
Example: Computer use in processing data in which data are stored on magnetic "memory" drums.

I.D.P. (integrated data processing) covers automatic data handling systems in which data are stored mechanically.
Example: Punched card systems in which data are recorded on cards, and cards serve all subsequent applications.

A.D.P. (automatic data processing) includes all methods in which data are stored either mechanically or electronically, or in combination.
There are degrees to "automatic" concept. "Fully automatic" would be a processing cycle in which a machine performs full circuit of work with absolute minimum amount of human intervention except for programming.

ere is a low cost line. Card ental of $270 per month).

COMPACT COMPUTER DESIGNS help bring the electronic devices nearer to the means of smaller companies. This small computer can solve big problems.

FLEXIBLE COMPUTERS mean wider use. This is a general-purpose desk-size unit in which all programs are stored externally in removable pinboards.

ur Job, and Your Company

under separate heads, also prompts attention towards better data processing.

In a 1958 survey of over 100 companies (manufacturing and non-manufacturing), the National Industrial Conference Board (N.I.C.B.) found that inventories tie up, "nearly 30% of the working capital of the average U. S. business." Also, it found that management in general is, "dissatisfied with its control over inventories."

Less Inventory Cost

One of the largest data processing equipment manufacturers in its sales literature takes dead aim on this matter of inventory cost and concern. The firm says: "It costs money to maintain an inventory. Generally, this cost is at least 10% per year and may run as high as 30%. Thus every $1 million of inventory, at the minimum, costs $100,000 yearly."

In a N.O.M,A. (National Office Management Association) survey of 4,000 companies it is interesting to note that of all planned uses of new data processing equipment, "inventory" listed highest for large and medium-size computers and for punched card machines.

Need for data processing knowledge is striking nearer and nearer the door of the P.A.

Even if a P.A. feels his company cannot afford even the least expensive piece of new data processing equipment, it still may pay him to investigate and plan improved data handling in his department.

Along this line, the A.M.A. Report No. 11 stated, "a substantial number of companies have found while planning for I.D.P. they actually didn't need any greater equipment or personnel capacity. What they needed was to revitalize their present set-up, to make it more modern, more efficient, more effective."

P.A.'s do not necessarily have to plan for computers for their departments. One source has pointed out, "virtually no company will invest in computer operation for the benefit of the purchasing department alone."

While ultimately the electronic robot army may march into the smallest of companies, lesser data processing systems still are needed. Computer investigator Peter Laubach, has said, "one of the most significant advantages of using transitional punched card equipment is that such equipment often produces most of the gains that were originally expected to be achieved by an automatic computer."

Any P.A. interested in streamlining his own departmental data processing will inevitably be drawn into the company-wide aspect of the problem. Then he must work with others even more than he did in setting up his own localized improvements.

At the company-wide level there is much purchasing agents can contribute, and much they can gain.

P.A.'s Bridge the Gap

P.A.'s are experienced in product evaluation. This experience can be valuable to a company considering purchase or lease of major and peripheral data processing equipment. Value-minded, analytical P.A.'s are alert to sales approaches and are experienced in evaluating new product functions and their applications in their businesses. Says automation consultant John Diebold, "At present, there is still a wide gap between engineering developments and business understanding of how the new equipment can best be used." P.A.'s can do much to bridge this gap for their companies.

It is said that companies with integrated data processing in mind have need of men with a broad knowledge of company operations to benefit fully from the "total systems" approach. It is well known that P.A.'s, by the very nature of the purchasing operation, straddle department lines in their many and frequent contacts. The resultant company over-all view can be of value in assisting managements in efforts toward achieving better data processing.

Another important way P.A.'s can assist in acquisition of data processing equipment is in negotiating favorable purchase or lease arrangements, service contracts, and other procurement considerations.

Many observers feel the greatest test of purchasing's service to management will come when computers are more widely used —and by smaller companies.

Many experts urge P.A.'s and other executives to "look ahead" in regard to their companys' data processing needs. Developments are rapid in the electronic data processing field. While a computer may not be feasible for a particular company today, it may well be tomorrow.

Changing needs of a company may also bring a computer onto the scene sooner than expected by the P.A. of a smaller company. There are indications when use of a computer may be near at hand for a company, according to the experts. Probably the leading indication would be a need by management of "inter-related data." Examples of inter-related data are production planning and purchases, inventory control data and sales forecasts, raw material, and finished goods.

Dr. Howard T. Lewis, Harvard professor-emeritus, has called for P.A.'s to investigate now the potentials of computers in the procurement and material control functions. He sees real professional challenges and opportunities of electronic data processing near at hand.

Says Dr. Lewis, "If through lack of foresight, or a natural resistance to change, or for any other reason the (P.A.) is not prepared to cope with their (automation and E.D.P.) impact, then others, presumably less qualified with operations but better qualified in the techniques will take over."

Rising E.D.P.

Foreseeing the possibility of those "better qualified in E.D.P. techniques" taking over the purchasing function, Dr. Lewis has warned; "If management believes that some newly developed procurement technique or controls can better be performed by a staff organization outside of purchasing or by engineering, or by some entirely new operational unit, it is not likely to hesitate merely because up to now a similar sort of job has been done by the purchasing department or because you and I argue that it belongs there. Management has learned that it is the procurement function, not a particular department that is important."

There is little excuse for P.A.'s not to be informed today about better ways and means to process data in their departments, or to be in a position to contribute to solutions of company-wide data processing problems. And there are many ways P.A.'s can keep abreast of developments in A.D.P. (automatic data processing) and be prepared to cope with future organizational impacts.

The box accompanying this article lists books, reports, glossaries, and periodicals that can be of assistance to P.A.'s interested in knowing more about all aspects of data processing. There is no charge for some of this material.

Aside from publications, there are many organizations that offer opportunities to P.A.'s to learn more about data processing. Here is a run-down on some of the leading sources of such assistance:

N.A.P.A. Survey

The N.A.P.A. Data Processing Committee is presently making a thorough survey of the use of computers in purchasing operations and inventory control work to determine what companies are using computers, what type of hardware is being used by each company, and how it is being used. The committee will provide general information to N.A.P.A. members on computer applications and supply prospective users with references to established computer systems so they can make firsthand contacts.

Also, the committee plans to issue a publication discussing the advantages, disadvantages, and general economics of computer applications to purchasing and inventory control. A study group now is being organized to make a similar study of electric accounting machine equipment.

The A.M.A. offers many courses, seminars, and meetings on various aspects of data processing. These discussions are designed for various levels of executives, and many are suitable for purchasing men. Interested P.A.'s should contact the A.M.A. directly for further information if their companies are not members.

Equipment manufacturers conduct regular data processing instructional programs for customers and prospective customers. Many of these courses are available to any responsible interested executive and usually there is no charge. These courses, of various lengths, cover punched card data work in many cases as well as electronic. Executive orientation courses are particularly suitable for most P.A.'s. For information, contact leading equipment manufacturers directly.

An increasing number of colleges and adult training centers offer courses in data processing. Many of the courses are designed for engineers, technicians, and accountants, but management orientation courses are becoming more available. Local colleges and educational directories at libraries should be consulted for further information on data processing.

Consultants specializing in data processing and factory automation have, in some cases, established courses of instruction. One offering a variety of programs and briefing sessions is Management Science Training Institute (40 Wall St., New York 5). These one-day to one-week sessions are offered at various times of the year in New York City and Chicago. Programs offered that are of interest to P.A.'s are: "How to Evaluate Equipment Manufacturers' Proposals," "A.D.P. for Production and Inventory Control," and "A.D.P. for the Small and Medium-Size Company."

There are even organizations that will assist in design and set-up of custom data processing training or orientation programs for your company or purchasing group. Beseler Training Associates (210 E. 23rd St., New York, N. Y.) is one such organization. Through use of animated visual aids they eliminate need of actual equipment in training on punched card or computer data processing.

Information Services

To keep interested business executives up-to-date in the fast-moving data processing field there are several loose-leaf services available. One such service is offered by Automation Consultants, Inc. (155 Fifth Ave., New York 10, N. Y.). Included in information offered by them is price and delivery times of computers on the market.

Another loose-leaf service is called Data Processing Digest (1140 South Robertson Blvd., Los Angeles 35). This is a monthly abstract service of books, articles, and reports on all aspects of data processing. This service also lists meetings and courses available throughout the country, including location and costs.

For a listing of additional sources of information on data processing please turn to page 14.

Where to Get More Data Processing Help

Here are further sources of information on various aspects of data processing. A "starter" library can be acquired without charge to a purchasing agent.

Glossaries

Standard 56 TRE 8.S1—8 pp.—60¢ per copy
The Institute of Radio Engineers, Inc., 1 East 79 St., New York 21.

Glossary of Computer Engineering and Programming Terminology—$1.00
Association for Computing Machinery, 2 East 63 St., New York 21, N. Y.

What Every Business Man Should Know About Electronic Brains—23 pp.—Free
Remington Rand Div., Sperry Rand Corp., 315 Fourth Ave., New York.

Periodicals

Computers and Automation
Berkeley Enterprises, 815 Washington St., Newtonville 60, Mass.

Control Engineering
McGraw-Hill Publishing Co., 330 West 42 St., New York 36, N. Y.

The Office
Office Publications, Inc., 232 Madison Ave., New York 16, N. Y.

Machine Accounting and Data Processing
Gille Associates, Inc., 956 Macabees Bldg., Detroit 2, Mich.

Office Management
Geyer-McAllister, Inc., 212 Fifth Ave., New York 10, N. Y.

Journal of Machine Accounting
National Machine Accountants Association, 208 S. Main St., Paris, Ill.

Reports

Management's Role in Electronic Data Processing
National Industrial Conference Board, Inc., 460 Park Ave., New York 22, N. Y.
Studies in Business Policy, No. 92, 1959—64 pp., Associates $3.50, Non-Associates $17.50

Electronic Data Processing in Industry
(A Case Book of Management Experience)
Special Report No. 3, American Management Association, 1515 Broadway, New York 36, N. Y.—257 pp., this report is out of print. Check libraries for copies.

Establishing an Integrated Data-Processing System
Special Report No. 11, A.M.A., Members $3.50, Non-members $4.50

Electronics in Action
Special Report No. 22, A.M.A., Members $2.50, Non-members $3.75

Automation in the Office
National Office Management Association, 1927 Old York Rd., Willow Grove, Pa., 24 pp.—$5.00
(Results of survey of almost 4,000 companies of all sizes on uses and types of data processing—from manual to electronic—in U. S. industry.)

Books and Booklets

Introduction to Data Processing
Haskins and Sells, 1957—107 pp., No charge—Requests may be made to publisher at 2 Broadway, New York, N. Y.

A practical layman's guide to data processnig. Used as a text in some courses in data processing, this book correlates principal data processing methods and devices with basic operations they perform. Principles and problems are reviewed in concluding chapters.

Data Processing by Electronics
Haskins and Sells, 1955—113 pp., No charge—requests may be made to publishers at 2 Broadway, New York, N. Y.

The aim of this study is simply stated in the front of the booklet; "to convey, to the interested reader who is not a specialist in the subject, a basic understanding of the operations and uses of electronic data processing systems." The study accomplishes its aim.

I.B.M. — Data-Processing — Machine Functions (Form 224-8208-3), Publications Dept.
International Business Machines, Inc., White Plains, N. Y.—31 pp.—Free

Shows in simplified form the functions of the many I.B.M. machines used for all types of accounting, statistical, and computational work. An equipment manufacturer's presentation but of considerable educational value to P. A.'s who want to know more about data processing machines and their applications. Many excellent illustrations.

Functions of Remington Rand Univac Data-Automation Systems
Sperry Rand Corp., Remington Rand Div., 315 Fourth Ave., New York 10, N. Y., 24 pp.—Free

Similar to above booklet but features data processing equipment of Remington Rand. Equipment is illustrated, operations described. Of value to P.A.'s who want to know what data processing machines look like, what they do, how they interrelate; from card punches to electronic systems.

An introduction to Automatic Computers
Ned Chapin, Illinois Institute of Technology, Technology Center, Chicago 16, Ill.,—1955, 245 pp., $9.00.

Of use to P.A.'s who may be members of company computer feasibility committees. Tells completely what computers are and how they operate. Tells how to investigate and determine need.

Electronic Computers and Management Control
Kircher and Kozmetsky, McGraw-Hill Book Co., 1955, $5.50—296 pp.

Practical guide to use of computers in business—showing how they operate, ways to use, and when and how executives should plan to use them. Is good guide for P.A.'s aiding in equipment selection. Tells how to determine best suited equipment, and includes original and operating costs.

Company Investigations of Automatic Data Processing
Peter B. Laubach, Harvard Business School, Boston 63, Mass., 258 pp.—$3.00

Step-by-step studies of how companies investigated automatic-data processing needs.

What you should know about

Does your corrugated box

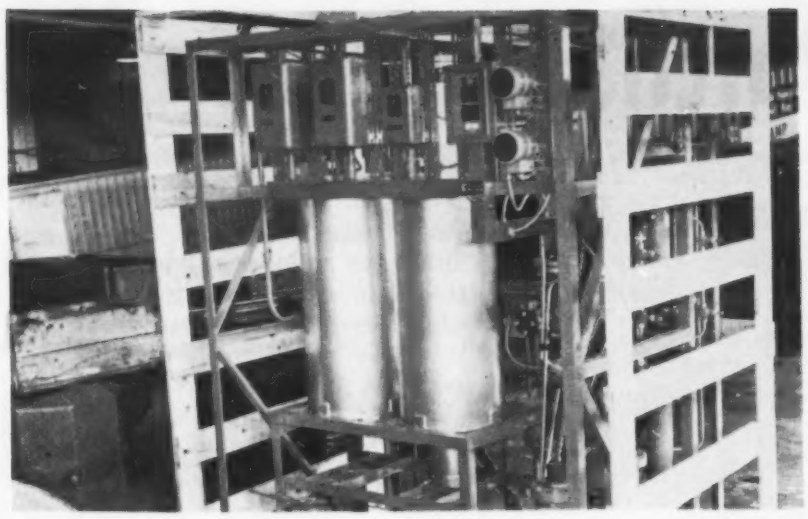
For most products, proper interior packing is one of the most important factors in corrugated container design. Through its careful selection you can often prevent a costly chain reaction of damage claims and rejected shipments.

How much and which types to use will depend primarily on your product, its construction, how it is normally handled and shipped as well as the type of protection needed. You may find, for example, that *anchoring* the contents is paramount. Some packing pieces are made expressly for this purpose. Others *cushion* against impact and vibration. Still others are used to *separate* packed units. A fourth groups primary job is to *suspend* the contents within the container.

The forms of interior packing are as versatile as the items they protect. A few of the most widely and successfully used types are described here:

SPRING PADS

Likeinnersprings,theseaccordion-shaped pads help dissipate and cushion shock. Their buffer action absorbs vibration



AMERICAN METALS PRODUCT CO. designed its rare gas purifying system to reduce the industry cost of replacing expensive and rare gases.

A.M.P. Designs Rare-Gas Purification System

Detroit—A chemical equipment firm believes it has an answer to the high cost of replacing expensive industrial gases.

American Metals Product Co. has designed a rare gas purification system designed to remove impurities from helium and argon.

The A.M.P. system can be used for such applications as: drybox welding, high temperature furnace operation, and systems for missiles, rockets, and space vehicles.

American Metals' first installation is underway at M & C Nuclear Corp. at Attleboro, Mass. It is designed to recover and process helium, argon, or their combinations at nominal flow rates of .125 standard cubic feet per hour at 150 psig. A peak rate of 300 s.c.f.h. is permissible.

American Metals custom designs its systems to remove solid particles, oil, water vapor, carbon dioxide, carbon monoxide, oxygen, hydrogen, and nitrogen from rare gases. A unit's size depends on the number and types of impurities in incoming gas stream, maximum flow expected, and pressure of operation.

American Metals utilizes a special catalyst that cuts the total impurities to 10 parts per million when operated within the allowable flow rate of the catalystic chambers. This makes the gas even purer than bottled gas.

In certain cases, it has been found desirable to provide bypass streams over highly polished reactive metal surfaces as a quality control check of the effluent gases. Since the gas impurity concentrations are so low, difficulties have been encountered in obtaining quantitative analyses of such impurities by mass spectroscopy.

The system assures delivery of a pure gas containing no more than 10 ppm. of impurities.

Recoveries in excess of 97.5% for helium conservation can be expected, American Metals said. Other units are available with capacities to 2,000 s.c.f.h. and operating pressures to several thousand pounds.

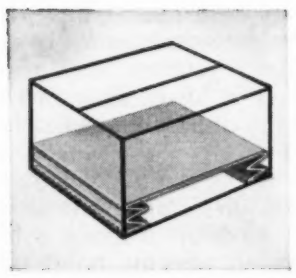
Link-Belt Buys Tepco Chip Handling System

Chicago—Link-Belt Co. has added to its line of conveying and processing equipment with the purchase of the Tepco automatic chip handling system from the Turbine Equipment Co. of New York.

The Tepco continuous chip handling system crushes chips and turnings to uniform size and extracts oil and coolants. It permits metalworking industries to realize a substantial premium on the sale of oil-free metal chips.

interior packing for Union Boxes.

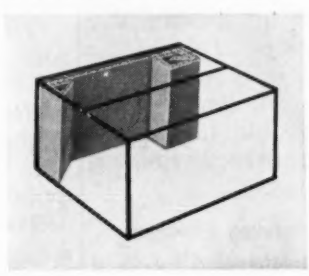
need an "innerspring mattress"?



which can cause loosening of parts and actual breakage — particularly where it coincides with the natural frequency of the packaged product and sets up harmonic resonance.

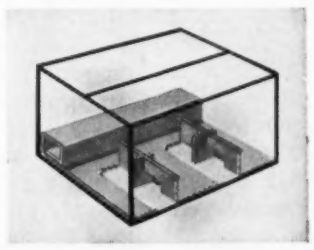
CORNER PIECES

These units "round off" the corners of the box's interior—provide extra protection at these vulnerable points. They cushion against crushing caused by improperstacking and impact resulting from humping or switching of freight cars, throwing, dropping and other shipping hazards that might squeeze or otherwise damage the contents.



DIE CUT SHEETS

Die cut inner packing comes in an almost limitless range of shapes, sizes, thicknesses. It can be made to perform practically any protective function. The pieces nearly always are tailored around the product—usually a fragile article, an item of irregular shape or one of unbalanced construction. Die cut inner packing is being used increasingly today because of the wide variety of items now shipped in corrugated containers.



Interior safeguards recommended or developed by Union-Camp are saving many companies thousands of dollars annually in packaging costs. Not to mention untold dollars that have been saved through the elimination of shipping damage. Whatever your product, your Union Box representative will be glad to work with you in determining the most efficient and economical approach to your particular packaging operation.

Write for free, informative booklet "Interior Packing of Corrugated Boxes"

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Western Division—4545 W. Palmer, Chicago, Ill.

Here's a way to simplify the purchase of splicing materials...

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1 **Faster, more reliable workmanship.** A dimensioned drawing and step-by-step instruction sheet are provided in every kit.

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3 **Save the time** involved in making out bills of material, hunting for suppliers, coordinating delivery from several sources.

WRITE on your letterhead for this FULLY-INDEXED, HELPFUL NEW CATALOG. It lists 275 different splice and termination kits together with explanatory information and prices.

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An Expert Views In-Plant Purchasing Training

AS a company management exerts more pressure on purchasing to reduce cost of purchased parts, the need for capable people becomes apparent. In-plant training programs—both for up-grading existing personnel or integrating college graduates into the purchasing department—are essential.

To help you develop—or improve—your own training program, PURCHASING WEEK went to Dr. Douglas C. Basil for straight-from-the-shoulder answers to blunt questions. Here they are:

Who is Dr. Douglas Basil?

He is an active member of the Twin Cities Association of Purchasing Agents and associate professor of management at The School of Business Administration, University of Minnesota. He teaches management and executive leadership courses as well as purchasing. In-plant training has been a special interest of his for some time.

Dr. Basil has done graduate work at London School of Economics and Northwestern University. He is staff consultant to several Midwest firms and director of a Chicago firm.

Q. Who should head up a training program?

A. The top man in purchasing. Unless he is directly involved in both the planning and the implementation of a purchasing training program, it won't be successful. If the "big boss" is behind the program and also directly involved in some phase of teaching, the rest of the staff will accept the program.

Who heads up the program will depend naturally on the organization of the firm. Ideally, all programs should be headed by a training director for the firm so that there is centralized training. The purchasing training program should be part of the larger effort. In the large purchasing department the responsibility for planning and executing the training program should rest with the chief buyer or assistant director of purchases. In the smaller department, it should rest with the director of purchases.

Q. How big a chunk should be bitten off initially?

A. Like any plan in business, a training program must be well conceived and executed to be successful. The answer here is to take sufficient time and effort to plan the complete training program, even to including special seminars and institutes for the top men in purchasing.

Q. Should there be a separate program for buyers, and purchasing agents?

A. The purchasing training program should consist of a number of separate programs for different positions in the firm involved.

Introductory Course

This should include the clerical staff of purchasing and the staff of departments servicing, or being serviced by, purchasing. The course would indicate the functions of the purchasing department and how they fit into the general organization and control of the firm. This course should be short. Flip charts and visual aids should be utilized extensively.

Principles of Purchasing Course

This course should be similar to ones sponsored by N.A.P.A. local branches or given by universities. It should be taken by all incoming college graduates, by expeditors, and by assistant buyers. It might be sponsored by a number of cooperating firms through the local chapter of the N.A.P.A. or through a nearby university.

Many firms may feel that such facilities are already available to their employees. However, two ingredients are missing. The first is whether the "sponsorship" of this course at the present time is related to an overall training program. The second is the relation of such courses to on-the-job training.

One of the major shortcomings of most training programs, whether in purchasing or some other field, lies in the failure to relate the theoretical course material to the actual practices of the firm.

Advanced Purchasing Course

This third program would utilize case studies of actual situations, preferably from the company's own experience. It would normally be conducted by the director of purchases himself and enroll the buyers as well as any college graduates or management trainees in the purchasing department. If the firm follows a policy of promoting expeditors to buyers' positions, then the expeditors should be enrolled in this course.

Purchasing Seminar

The fourth part of the program might be a purchasing seminar, again conducted by the director of purchases. This would have buyers, design engineers, accounting senior staff, production control senior staff, and perhaps the production superintendent as participants. This seminar would meet infrequently, at the most monthly. It would resolve actual purchasing problems facing the firm in the area of value analysis, make or buy decisions, and the like.

Q. Should the top P.A. expect to gain anything from such a course?

A. The director of purchases will gain a number of things from such a program, the least of which might be something about purchasing that he didn't know before. Other returns will be: knowing his staff better, its capabilities and limitations; a good idea of the morale of his department; and with the complete program outlined above, better support and understanding of purchasing problems from other departments.

Q. Can these be worked in cooperation with local evening courses?

A. Yes. Sometimes such evening courses may be inclined to be "text-bookish" but often the level of instruction may be higher than that obtainable in the average firm.

Q. Can the training or education supervisor do the training?

A. We are faced with a dilemma here. The training director is often better qualified to instruct but the purchasing staff has the knowledge. In the large company, the answer would seem to be to instruct the training director in purchasing procedures so that he might do the teaching in the first two levels of courses and participate in the second two levels.

Q. Do you feel buyers should be selected from in-factory (stores, shipping) or from outside (college graduates)?

A. There is a distinct trend toward college training. Some firms have tried to follow a policy of hiring from within for all functions but often have been forced to abandon the policy. From the number of companies that recruit at universities, it would seem that the college graduate has been accepted in industry. Yet, purchasing departments as a whole do not recruit college graduates even if the firms themselves do.

Incidentally, many of the college graduates make their choices of employers on the basis of whether the firms under consideration have good training programs or not.

Q. Should people come into purchasing with no previous department affiliations?

A. There is little doubt that a lot of top men in purchasing were moved into director of purchases positions directly from some other function. Yet, if we ask ourselves why, the only answer we can honestly give is that a vacuum existed at the top of the purchasing ladder. If purchasing recruited top notch college graduates, and trained them as do other functions in the firm, purchasing would end up supplying the other functions of the firm with top management personnel!

Q. Do many companies have good job descriptions for purchasing applicants?

A. A company that has job descriptions for other functions would usually have them for purchasing. However, it is still the director of purchases who decides what qualifications are necessary for a particular job.

My quarrel with purchasing practices is that directors of purchases either are unwilling to state or do not know that higher qualifications can be and should be required for purchasing positions. If there were truly adequate job descriptions, the need for a training program would become apparent immediately because the company would have difficulty obtaining personnel to fill the jobs.

Q. How much time should be spent on training and what cost would there be for such a program, say for five men?

A. The Introductory Course

This course should run approximately 20 hours. The number of participants from purchasing and other departments should not exceed 25. The only direct cost would be for the instructor, who could be either a professional (such as a professor of a local university), the training director (but this would involve him in a lot of "homework"), or the director of purchases himself. If outside help were used, the cost would be about $1,000. If either the director of purchases or the training director did the job, it would cost about the same or more in the time that it would take either of these men to prepare a presentation. If you add the cost of the 20 hours for which the men were released from work (say at the rate of $3 per hour), then the cost would be about $2,500 (of which about $500 would be for the five men in purchasing).

Principles of Purchasing Course

This course could be taken either at the local university or in a cooperative course among a number of business firms in the community. The cost would be tuition of $50 to $100 or a maximum of $500 for the five men in purchasing. This course would normally be a semester in length or 30 to 40 hours of instruction and would take place in the evening over a four to five month period.

Advanced Purchasing Course

This course could be offered in the evening in cooperation with other firms or with the university, or during the day—say one afternoon a week for two hours—if the program were to be run by the director of purchases. There is an additional cost for this course if run internally; namely, the cost of collection of case materials about your own firm. A minimum of ten cases would be required, costing a minimum of $200 to $500 each to collect. In addition, as this type of instruction is very difficult, a moderator or instructor would have to be brought in from the outside or from the training department. Again, the cost would amount to about $1,000 for instruction with the course running about ten weeks, two hours a week.

However, the ideal way to organize such a course is through the local chapter of the N.A.P.A., with a grant being made by the local chapter for the collection of cases.

Purchasing Seminar

The seminar is in many ways the most useful and also the least expensive of the programs. Normally, the material to be utilized in the seminar will have been collected as a natural part of a cost reduction program in purchasing. However, the director of purchases would have to spend some time familiarizing himself with the material and there would be the cost of the time involved in conducting the seminar. It also would seem unfair to charge any cost against this part of the training program as there will be direct returns from such meetings in lower costs for the company almost immediately.

Q. Is training best handled on the job or after hours?

A. Some training is best done during working hours and some best after hours. A general introduction to purchasing is something that is more in the interests of the company than in that of the individual. On the other hand, a course in the principles of purchasing is something that will benefit the individual directly and could very well be after hours.

The advanced purchasing course could be offered to assistant buyers or purchasing trainees in the evening although the buyer might resent an intrusion on his time for what he would consider to be for company benefit.

The purchasing seminar would seem naturally to fall during working hours.

The general rule would be that f the company receives more benefit than the individual, the course should be during working hours. If the individual is to benefit, mostly through promotion on the completion of such courses, then such courses should be in the evening.

Q. If after hours, should trainee receive overtime pay?

A. The general answer is no. However, if it is necessary to hold a course in the evening where the company is to gain more from the course than the individual, then compensation of some sort is in order.

Q. Should trainee spend time in other departments? Which ones?

A. Yes. The trainee should

spend time in inventory control to understand how the size of orders are determined and how the level and individual amounts of inventory are controlled. He also should understand production control and scheduling so he can see the importance of delivery dates. He should spend time in design engineering to understand the part purchasing plays in reducing the costs of products through purchase value analysis and cooperation with the design engineers. Another department of interest to the purchasing trainee is accounting. The trainee can see how the concept of internal control is applied in the firm, how accounts payable are processed, and the problems of purchasing commitments and cash flow are handled.

Q. Is it possible to set up a training program valuable for both new and old hands?

A. The old adage "we are never too old to learn" is applicable to purchasing as much as to any other function. As in every other field, there have been major advances in purchasing in the last two decades. We must face the facts that few executives have time to do the amount of research and reading that they should to keep up with the field. The major problem with the "old hands" lies in motivation. In some way we must inspire the old hands to participate in the programs rather than order them to attend.

This can be done by letting them have a definite part to play in determining the content of the program, even in active participation in the program by presenting some of their problems and how they solved them.

Q. What is the best way to break in an understudy for on-the-job training without disrupting regular work in the purchasing department?

A. It is not possible to break in an understudy for on-the-job training without disrupting regular work. One of the major fallacies in training is that the on-the-job training costs the company nothing for a training program. There is a place for such on-the-job training in conjunction with a regular training program but it is not an adequate substitute for a training program. At best, the trainee will learn how the supervisor does his job but rarely why. Furthermore, although a man may be able to do his job extremely well, this does not mean that he can teach someone else how to perform the job.

A positive way in which a man may break in an understudy is by allocating a certain amount of time each day to instruction and answering any questions the understudy might have. In addition, it is necessary to have a formal and systematic plan for the understudy to follow if the training of the understudy is to be successful.

Q. What value should be placed on grades?

A. A word of caution on using grades for promotion! Grades have the same limitations as test scores on psychological tests: namely, it is much easier to predict failure than success. A man should not be automatically promoted on the basis of high grades on tests. The man's performance on the job should carry greater weight in evaluating his worth to the firm than examination scores.

Q. What training aids do you recommend?

A. Text books, pamphlets, and other written material should be used as background material for any course. An outline of the content, objectives, and extent of the training program is a "must" both for the participants to accept the program and for the director of the program to be sure that he is covering the material in the sessions. Films are particularly useful for a change of pace in a program, even though there are few films devoted to purchasing per se. There are some excellent films on salesmanship, however, which give the other side of the purchasing picture.

Participants like to feel that the program is well planned and "professional." The preparation of printed materials and flip charts to emphasize important points in a discussion will go a long way to impressing participants of the program's worth.

Q. What kind of special projects might be used to challenge the trainee?

A. Some examples of special projects that might be used to challenge the trainee are the following: **1.** Make an audit of the purchasing procedures used in the firm, **2.** Do a purchase value analysis on one important commodity as well as a review of how the commodity or part was purchased in the past, **3.** Visit a supplier's plant and submit an evaluation of the firm. **4.** Make an organization chart of the purchasing department showing its interrelationships with other departments. The major requirement of such special projects is that the trainee is pushed to the limits of his abilities. Yet, his report must be handled sympathetically and any good ideas instituted with credit being given to the trainee.

Q. What is the minimum size purchasing department that can operate a training program?

A. Any size purchasing department can have a training program. For the more formal program with the four stages or courses noted earlier, a minimum size would be eight to ten employes in purchasing.

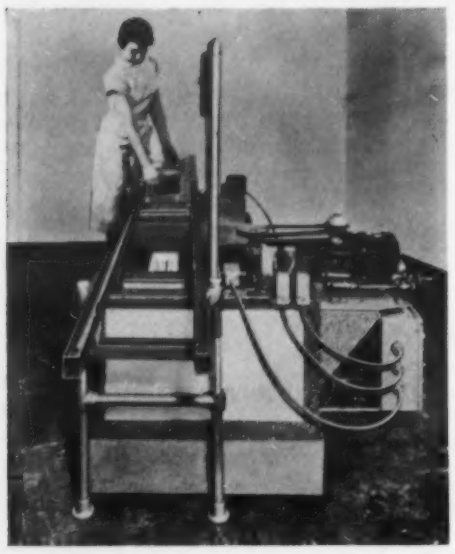
Q. What suggestions do you have for the one-man purchasing department?

A. The one-man purchasing department should set up a program of self improvement including the visiting of purchasing departments of other companies, enrolling in local college courses, and attending seminars.

In continuous lengths: **the bronze casting you want in the shape you want! Asarco will custom cast practically all standard tin-bronze alloys in the shapes, lengths and diameters you need. Custom-shapes in long lengths instead of individual castings. Uniformity and machinability of bronze alloys with no hard or soft spots: no sand, dirt, or dross to dull tools or reduce cutting speeds. Superior physical characteristics: impact, tensile, and yield strength, and hardness, improved as much as 100% over the same alloys cast by other methods. Asarcon® 773 (SAE 660), general purpose bearing bronze, is immediately available from stock in 260 sizes, rods and tubes in ½" to 9" diameters, lengths up to 105". Special shapes can be made to order. Write: Continuous-Cast Products Dept., American Smelting and Refining Company, Barber, N. J., Kingwell Bros., Ltd., 457 Minna St., San Francisco. In Canada: Federated Metals Canada, Ltd., Toronto and Montreal.**

This Week's Product Section Is Devoted to a Round-Up of New Production Machinery

Here's your weekly guide to . . .



Soldering Machine

For Printed Circuit Boards

Flowsolder production unit handles all soldering operations on printed circuit boards automatically. The process provides continuous, straight-line, single-level processing of components up to 9½ in. wide and up to any practical length. The unit includes a conveyor, fluxing unit, heat bank, and board carriers. The operator places the circuit board in the carrier and puts it on the conveyor which travels at 1 to 15 fpm.

Price: Approx. $4,925. Carriers $30. Delivery: 4 to 6 wk.

Electrovert, Inc., 124 E. 40th St., N. Y., N. Y. (P.W., 7/27/59)

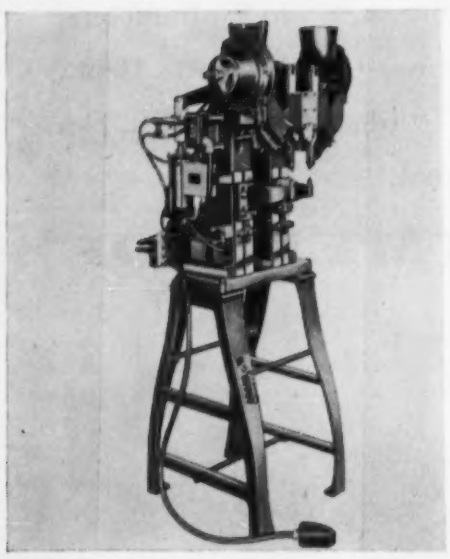
Thickness Gage

Uses X-Rays

Short pulse X-ray thickness gage can measure from foil thickness of 0.00025-in. to plate thickness of 1.5-in. It uses a sharply-pulsed beam to measure plastic, rubber, fabrics, steel, copper, brass, aluminum, etc., at speeds up to 6,000 fpm. Various mountings are available.

Price: Approx. $10,000. Delivery: 90-120 days.

Daystrom-Weston Div., Daystrom, Inc., 614 Frelinghuysen Ave., Newark, N. J., (P.W., 7/27/59)



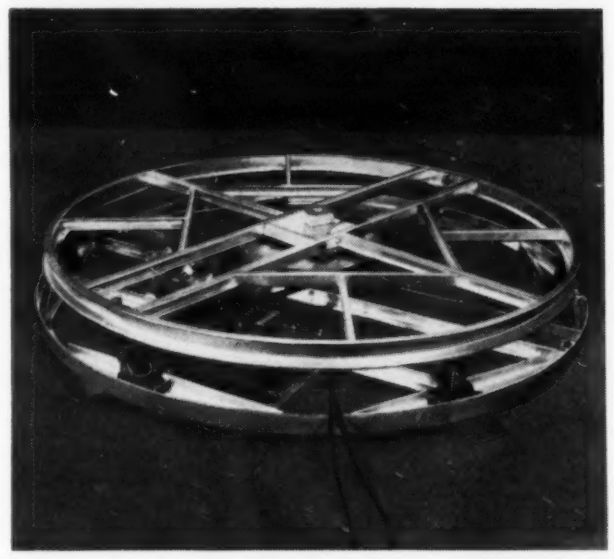
Rivet Setter

Can Handle Fragile Materials

Rivet setter can handle fragile materials such as ceramics, plastics, etc. Cushioned operation reduces breakage and makes machine suitable for fastening assemblies consisting of uneven material thicknesses. Model 180 has throat depth of 6 in. and will set two 0.098-in. steel tubular or ⅛-in. brass tubular or split rivets at the same time. Maximum rivet length is $\frac{7}{16}$ in. Operates on air line pressure of 50 to 60 lb. Controls are electric.

Price: $2,185. Delivery: 6 to 8 wk.

Chicago Rivet & Machine Co., 950 S. 25th Ave., Bellwood, Ill. (PW., 7/27/59)



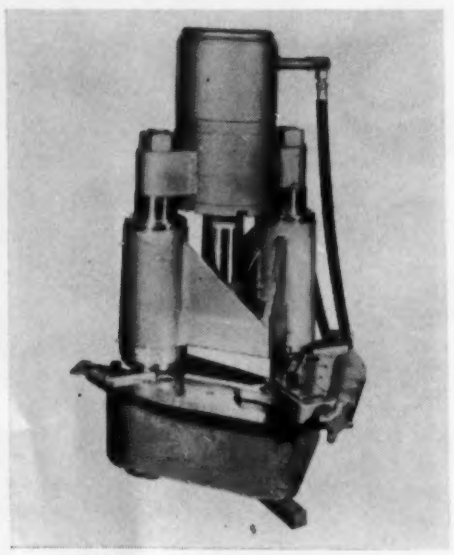
Turntable

Easy to Assemble

Designed for permanent and temporary installations, turntables can be moved by loosening 12 bolts. Available in diameters 4 to 16 ft. in 1-ft. increments and capacities up to 3 tons. Powered by ½ hp. ac. motor, speed is adjustable between ½ - 5 rpm.

Price: $1,450 (6-ft. dia.) to $2,500 (16-ft. dia.) Delivery: 6 wk.

Anchor Steel & Conveyor Co., 6906 Kingsley Ave., Dearborn, Mich. (P.W., 7/27/59)



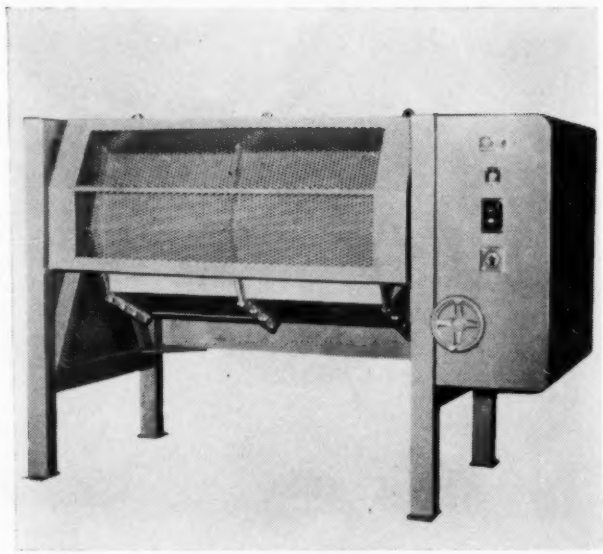
Notch-Bending Press

Handles Angle Iron, Sheets

Press performs both notching and bending operations of angle iron or flat sheet stock. Work is notched at one side of the press and then moved to other end for 90 degree bending. One man can operate the unit on all jobs. Capacity to notch-bending 4x4x¼-in. angle iron, or 5½x5½x¼-in. corner of flat sheet or angle iron. Available with 1½ hp. motor for operation at 7 strokes a min. or with 3 hp. motor for 12 stroke a min. production.

Price: $1,073 (7 stroke), $1,178 (12 stroke). Delivery: 3 to 4 days.

W. A. Whitney Mfg. Co., 636 Race St., Rockford, Ill. (P.W., 7/27/59)



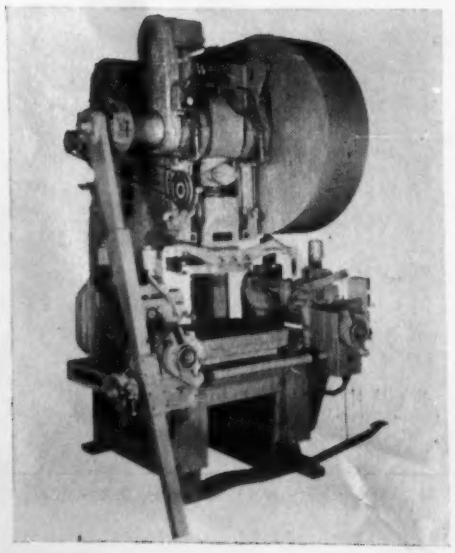
Tumble Finisher

Has 21.7 Cu. Ft. Capacity

Suitable for large-scale production in parts finishing, grinding, and deburring operations, precision barrel finisher has 21.7 cu. ft. capacity in its multi-compartment barrel. Speed can be adjusted from 8 to 25 rpm. Choice of 1 to 3 compartments.

Price: $2,150 (30x32-in.) to $2,800 (30x40-in.). Delivery: 2 wk.

Rampe Mfg. Co., 14915 Woodworth Ave., Cleveland, Ohio. (P.W., 7/27/59)



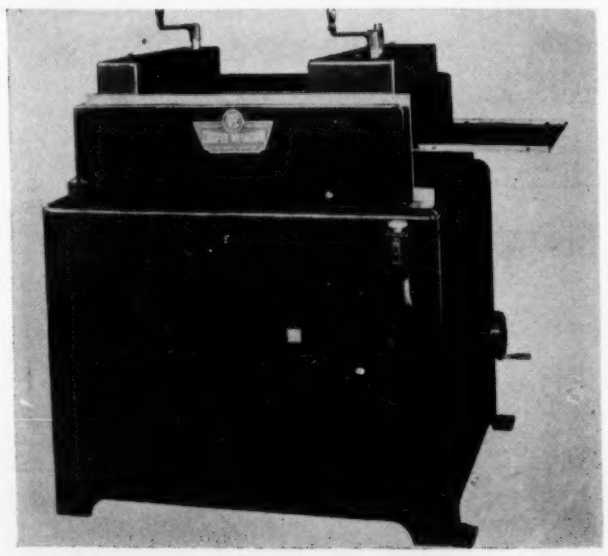
Gap Press

Speeds from 75 to 200 Strokes a Min.

Model 60-1-14CG welded steel, open back, single crank, flywheel-type gap press. Has 60 ton capacity and operates at speeds from 75 to 200 strokes a min. Constructed with bronze lined crankshaft and gibways, the flywheel runs on antifriction bearings. It has a recirculating oil lubricating system and a pneumatic clutch and brake. Feed shown is double roll type for 0.060 in. material, 12 in. wide with a maximum length of 1 ft. Maximum feeding speed is 1,200 in. a min.

Price: Approx. $14,000. Delivery: 8 to 10 wk.

Federal Machine & Welder Co., Warren, Ohio. (P.W., 7/27/59)



Parts Straightener

Takes Stampings and Strip

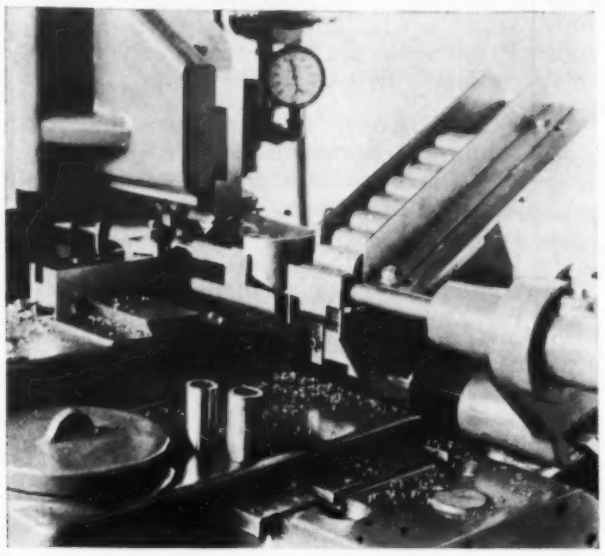
Straightener will accommodate flat stampings as well as coil and strip up to 20 in. wide. Will smooth and flatten to within 0.001 to 0.002 in. at feed rates from 10 to 50 fpm. Available in self-contained, bench-height cabinet, and portable models.

Price: $4,180. Delivery: 4 to 6 wk.

Cooper Weymouth, Inc., 603 Honeyspot Rd., Stratford, Conn. (P.W., 7/27/59)

New Products

Another PURCHASING WEEK service: Price and delivery data with each product description.



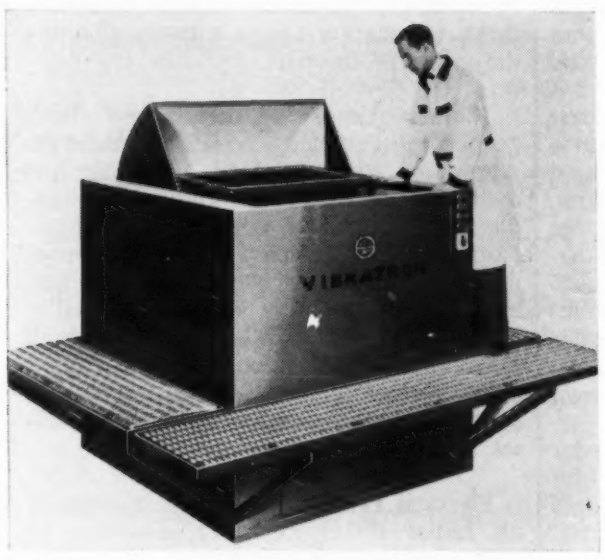
Work Loader

For Feeding Lathe

Injector type automatic loader attachment picks parts up from feeder chute and feeds them to lathe. Stripper kicks finished part off the arbor and into the unloading chute while tools return to the starting point. It can handle 550 bronze bushings an hour.

Price: $5,300. Delivery: 10 to 12 wk.

Seneca Falls Machine Co., 18 Fyfe Bldg., Seneca Falls, N. Y. (P.W., 7/27/59)



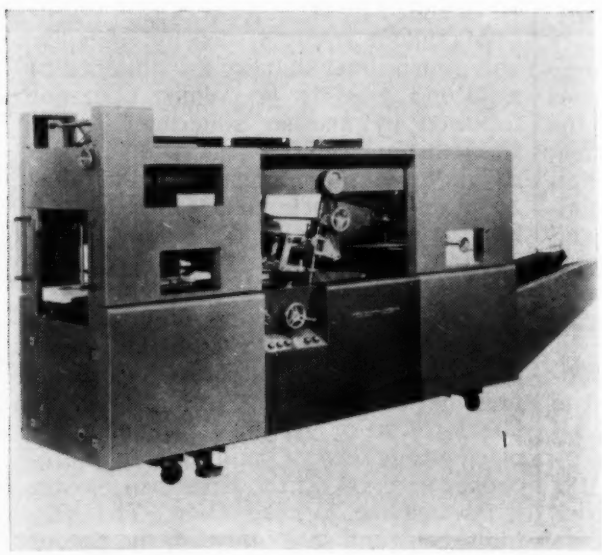
Finishing Machine

Uses Vibratory Motion

Vibratron designed for mass production cleaning, descaling, deburring, radiusing, fine finishing, and coloring of metal parts. Time cycles are short, and production rate is said to be much greater than possible with conventional barrel finishing techniques.

Price: From $3,000 (1 cu. ft.) to $8,965 (13 cu. ft.) Delivery: 6 wk.

Roto-Finish Co., 3707 Milham Rd., Kalamazoo, Mich. (P.W., 7/27/59)



Lidding Machine

Closes Boxes

Box lidder automatically closes filled boxes as they come off the production line. Box size adjustable from 1¼x1¼x¼-in.to 22x14½x-4½-in. in less than five minutes. Built on casters it can easily be moved to different locations and locked into position.

Price: $8,750. Delivery: 8 to 12 wk.

Charles Beck Machine Corp., Church Rd., King of Prussia, Pa. (P.W., 7/27/59)

Purchasing Week Definition

Textile Terms (Part II)

Filling—Single yarn that interlaces with warp yarn (see below) at right angles in weaving fabric. Usually less twist compared to warp yarn.

Warp—Any yarn that runs lengthwise in cloth made on a loom. Usually stronger than filling. In making fabric, warp yarn is under tension; filling is not. Hence need for extra strength in wrap yarn. Also warp has more twist.

Weave—Process of forming a fabric on a loom by interlacing warp and filling threads with each other. These are basic weaves: plain, twill, satin. All other weaves are variations. Variations permit different fabric surfaces and strengths.

Plain weave—One warp thread goes over the filling thread while another warp thread goes under. Firmest method of interlacing warp and filling.

Twill weave—Diagonal lines on face of cloth. Lines may go left or right, or may be crossed. Makes durable fabric.

Satin weave—Smooth, shiny surface. Attractive appearance. Low tensile strength. **(P.W., 7/27/59)**

This Week's

Product Perspective

JULY 27-AUG. 2

Here's a sampling of the current crop of new materials:

● **Forgeable sintered tungsten and tungsten alloy billets and preformed shapes are now available.** Hollow conical and cylindrical shapes, up to 8 in. dia. and 12 in. long that can be forged into finished pieces are offered. The 99.9% tungsten is produced by vacuum sintering techniques, with densities about 90% of theoretical. It can be forged at 3,400 to 3,500 F. (Firth Sterling, Inc.)

● **Large cast nylon machine parts such as gears and rollers in sizes up to 2 ft. are undergoing service testing.** Centrifugal casting technique is used to produce the parts. They are said to have higher density than nylon parts produced by other methods. Tooling costs are estimated to be a fraction of those for conventional molding methods. (Reeves Brothers, Inc.)

● **Two adhesives are designed for bonding polystyrene foam.** A-827-B bonds foamed-in-place polystyrene; R-1083-T bonds prefoamed polystyrene shapes to themselves. Assemblies bonded with A-827-B withstand repeated simulated weather cycles involving immersion in water at 120 F, hot water spray at 160 F, dry air heat at 160 F, and storage at minus 40 F. R-1083-T bonds withstand repeated simulated weathering cycles involving temperatures of 160 F plus water immersion and salt spray environment. (B. F. Goodrich Industrial Products Co.)

● **Lightweight fabrics based on polypropylene have just been introduced into two large-volume markets: auto seat covers and outdoor furniture webbing.** Seat-cover fabrics and webbing have high strength properties combined with a resilience that permits them to resume their original shape after a load has been applied, thus eliminating sagging. They have excellent color retention, are moisture resistant, and immune to staining from cosmetics and foodstuffs. (Hercules Powder Co.)

● **Seven new silicone rubber compounds, all aimed at making the processor's job easier are available.** Silastic 52 and 82 are designed for many types of applications including aircraft, automotive and appliance gaskets, seals, diaphragms, and tubing. Silastic 1601 and 1602 were developed to meet wire and cable manufacturer's insulation needs. Silastic LS-63U is a new, easy to process, fuel, solvent, and oil resistant fluorosilicone rubber that can be processed by conventional rubber manufacturing methods. Masterbatch Silastic R433 Base is a silicone polymer with a quantity of silica added. Silastic LS-422 Base is said to be the first fuel and solvent resistant masterbatch on the market. (Dow Corning Corp.)

● **Sprayable plaster produces a fireproof and sound absorbing coating on unprimed steel decking, flooring, and beams.** Fire ratings up to 4 hr. can be obtained by varying the thickness of the plaster with the type of steel construction. Under average conditions heat conductance is 1.32 Btu. per sq. ft. per hr. per deg. F with a ⅝ in. thickness. The material is called Fire-Shield. (National Gypsum Co.)

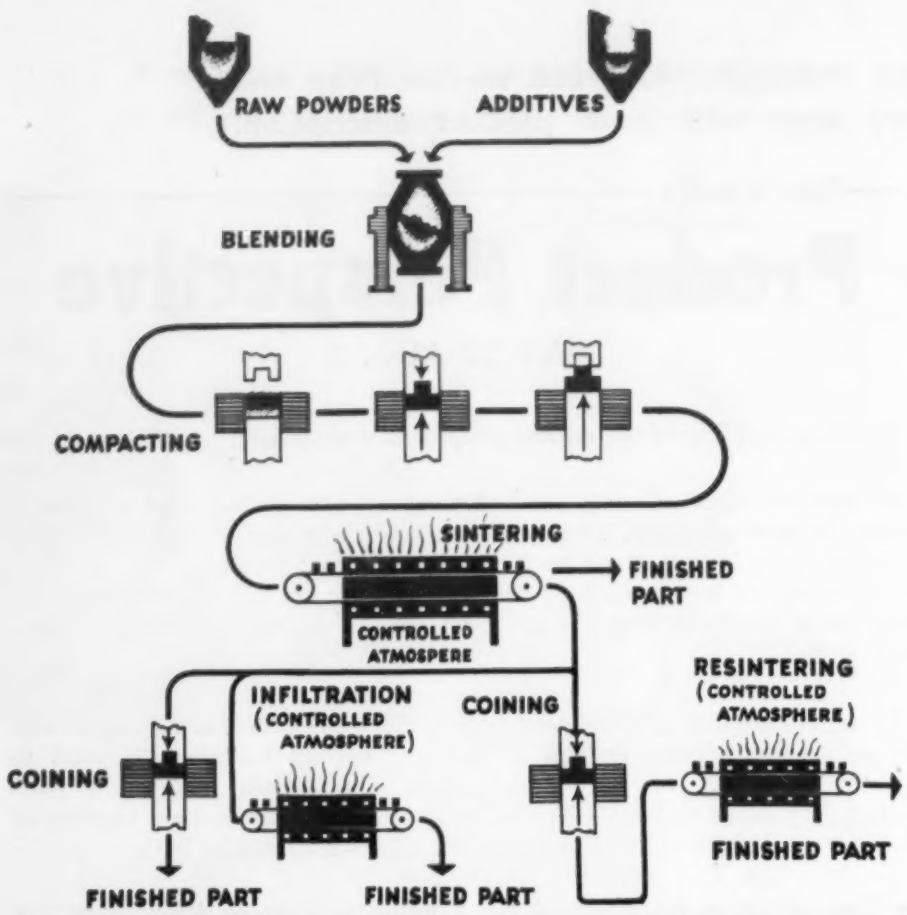
● **New cellophane is tailored especially for packaging fresh meats in supermarket self-service departments.** Base sheet is coated with a plastic resin. REO has these properties: high strength, oxygen permeability, moisture retention, and dimensional stability. Sheets are priced at 44¢ per 1,000 sq. in. (American Viscose Corp.)

● **Aluminum bearings for railroad freight cars are under test.** Preliminary results indicate the light metal wears up to twice as long as other low-cost bearing materials. They also run cooler and are not so subject to corrosion. (Aluminum Co. of America)

● **Taxicab tests of Teflon fiber bearings showed the material's ability to function as a bearing for extended periods of time without lubrication.** The test lasted 8 mo. while the cabs ran about 50,000 mi. each. Lubrication savings added up to $54 a cab. (E. I. du Pont de Nemours & Co.)

● **Vinyl coating protects against abrasion and corrosion.** Called Unichrome B-64, maker suggests coating for use on glass-reinforced plastics, metal furniture, and electronic equipment. Coating is hard and flexible, withstands attack from a variety of chemicals and environmental conditions. Inherent toughness permits rough duty. (Metal & Thermit Corp.)

Powder Metallurgy May Cut Your Part Manufacture Cost



THE POWDER METALLURGY PROCESS: At least two steps are needed to make a powder metal part—compacting and sintering. Die cavity in hydraulic press is filled with loose powder which has been blended to specifications. Resulting green "briquette," or compact, has no strength, but can be handled without damage. Briquette goes into controlled atmosphere and temperature furnace where it is sintered, or heated, to a temperature between one-third and just below melting point of the alloy. If close tolerances are needed, one or more additional operations must be performed. They may include coining, infiltration, or coining plus resintering; all add to the cost of the part.

Powder metallurgy, one of the newest techniques developed to manufacture parts, is destined for its biggest year yet.

Preliminary estimates indicate that industry activity (as measured by total U. S. shipments of iron powder) has jumped from 3,000 tons in 1947, to 18,000 tons in 1952, and to more than 30,000 tons in 1957. Although shipments were down last year, first quarter reports forecast that 1959 will top 1957.

These statistics show that this technique has made the transition from a laboratory curiosity to a valuable production tool. Although there is usually more than one way to manufacture a part, only one way is cheapest. That is why there is a good chance a switch to powder metallurgy could save you money on some of the parts that you now make by other processes.

What is powder metallurgy? Children playing at the beach fill a bucket with sand, pack it down, turn over the bucket, and get an exact replica of the inside of the bucket. Powder metallurgy works basically the same way. Alloy powders are blended and fed into a press. The mass takes on the shape of the original die and then is heated to some temperature near, but below, the melting point of the metal. This fuses the individual particles into a solid metal part.

About half of the powder metal parts produced in this country are made on a contract basis. Few companies have been willing to get into the business of making the parts themselves because of the large physical investment and technical know-how needed. Larger users, such as auto makers and business machine manufacturers, have set up their own powder metallurgy departments, and some do outside contracting in addition to their own work.

The P.A. interested in what powder metallurgy may be able to do for him would best start by subcontracting some parts out to a reputable powder metallurgy fabricator. If the results measure up to his expectations and if he has a large quantity of parts to manufacture, his company then should investigate the possibility of setting up its own department.

Cost savings in powder metallurgy stem from the elimination of scrap losses due to the reduction, and more often the elimination of, machining. Also, they stem from the fact that it is a mass production process that reduces unit costs to a minimum. Auto, appliance, hardware, and aircraft industries have been the largest consumers of powder metallurgy parts. Popular items have included cams, bearings, gears, bushings, etc.

Parts considered for powder metallurgy applications should be evaluated in terms of the following:

Volume: Because dies in which the metal is formed are extremely expensive and the cost of changing a press set up considerable, the process is best suited for mass production. Parts can be produced at high speeds, up to more than 1,000 per minute in some cases. Minimum total production is generally about 50,000 pieces. Like any production figure, this is, of course, variable. One manufacturer found it economical to produce 50 parts of one design a month because, in this case, production by conventional methods required an excessive number of machining operations.

Size: The process usually is used for small parts, size being limited by press capacity. Most commercial parts range in cross section from ⅛ to 50 sq. in. and have lengths between $\frac{1}{32}$ and 6 in. However, many companies have installed large presses. One fabricator now supplies parts up to 30 in. in diameter. A major size breakthrough is on the horizon—two auto companies are experimenting with designs that weigh several pounds.

Shape: Because the powder is poured into the die and then compressed, it follows that the shape should be such that the part can be ejected readily without die disassembly or part fracture. This eliminates undercuts, central flanges, reverse tapers, and a few other shapes. Parts with the following features are especially well-suited for the process:

1. Relatively thick sections that are cylindrical, rectangular, or irregular, but don't involve large variations in cross sectional dimensions. The ratio of length to diameter should not be more than 4:1 for parts less than 1 in. in diameter and considerably less as diameter increases. For most applications 2½:1 can be considered a practical limit.

2. Holes, counterbores, slots, or keyways.

3. Simple flanges or projections at one end.

4. Splines, gear teeth, or knurling.

5. Surface indentations.

It is important that the fabricator be consulted before the design is finalized. A small change at the design stage may make fabrication easier without affecting the utility of the part.

Metals: Almost all metals and alloys can be fabricated by powder metallurgy. Aluminum, zinc, tin, lead, and other low melting-point metals are difficult to handle and, in general, should be avoided. Copper, copper base alloys, ferrous metals, and ferrous-base alloys (including most of the stainless steels) are readily handled at reasonable cost. Although powders are more expensive than wrought metal of the same composition, economies of the process usually more than offset the increased metal costs.

Physical Properties: Typical tolerances on radial dimensions perpendicular to the direction of pressing are ± 0.001 in. per inch; axial dimensions usually are held to ± 0.005 in. with minimum tolerance of ± 0.001. Closer tolerances can be obtained by sizing operations.

Maximum strength, density, ductility, and dimensional stability are obtained by a second pressing or coining operation followed by another sintering. Tensile strengths up to 45,000 psi. yield strengths up to 28,000 psi. Elongations from 11 to 25% can be obtained in this manner. Higher tensile and yield strengths, up to 200,000 psi. can be developed by carburizing and hardening.

Parts with non-uniform cross sections can be strengthened by an infiltration process. An infiltrated part is made by pressing and sintering iron powder to about 77% of its theoretical density, placing a replica or infiltration blank of copper or brass on the part, then passing it through the furnace again. The infiltrant melts and soaks through the porous part, giving it almost 100% density and great strength.

Powder metallurgy techniques permit parts to be made deliberately porous to various degrees and in selected areas. Thus, density can be considered a new controlable variable just as the degree of cold work is controlable in wrought products. This ability to control density means that physical properties, such as tensile strength, can be controlled.

Porosity of powder metal parts gives them an advantage not obtained by other manufacturing processes. A porous part has air spaces between the particals of metal. These spaces can be filled with a liquid, such as a lubricant. The fluid is brought to the surface by capillary action and may last for many years. This was one of the original uses for powder metal parts. A large amount of powder metallurgical production still goes into the manufacture of self-lubricating bearings.

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This Week's

Purchasing Perspective

JULY 27-AUGUST 2

(*Continued from page* 1)
134-day holdout over similar management demands (see P.W., June 22, '59 p. 1). Next big fight on the same issue will be the rail contract talks later this summer and fall.

• • •

Eisenhower Administration activities in the steel strike acquired new significance and political overtones last week.

Labor secretary Mitchell—Ike's "one-man fact-finding board"—and Vice President Nixon head an Administration group who have felt that steel companies could afford a wage increase—maybe 5¢ to 10¢—without raising prices.

In that respect, Mitchell's maneuvering to win appointment as the President's chief government fact-finder in the dispute carried special significance.

• • •

The decision on Mitchell, in effect, moved the federal government cautiously but definitely farther down the path to direct intervention.

It also put the Administration in the position of going to the side of Steelworkers' President David J. McDonald for the second time in three weeks. Nixon and Mitchell previously helped McDonald engineer the request by Eisenhower to extend negotiations beyond the original July 1 deadline.

The move underscored these points:

- Possible swifter action on a Taft-Hartley Act 80-day cooling off period.
- Mitchell could well advance his stature as a possible Nixon running-mate in 1960 if he can engineer a face-saving settlement for both sides.

But even deeper significance of Mitchell's assignment was seen in the unprecedented private session the President held early last week with White House correspondents.

Eisenhower made the point that he considered the steel strike a test of Americans' ability to govern themselves economically as well as politically. But he went on: If labor, business, and other groups don't practice self-discipline, someone else will have to take a firm hand.

To avoid this, he feels steel negotiators must stay on the job without government interference on either side.

• • •

All this, of course, appears to fuzz the sharp line Eisenhower means to draw between fact-finding and intervention. And much depends on the facts Mitchell will carry to Eisenhower and his interpretation of them.

And ultimately the key question will be asked: How much of a wage increase—if any—and under what conditions can the industry grant without raising prices?

The Administration may not want to find itself in the position of supplying an answer. But it already has embarked on the preliminaries to such a study.

Railway Express Shuffles Its Rates

(*Continued from page* 1)
its Mountain Pacific regions.

Discussing the "modest" rate hike and planned rate study, R.E.A. President William B. Johnson noted that incentive rate tariffs, also to be effective in September, would be filed "in about a week."

He said they would provide for quantity rate reductions on a number of commodities expected to move in greater volume under the incentive program. This is part of the agency's proposed drive to compete more vigorously with other small shipment carriers, producing greater shipper benefits and more volume for the express operation.

Johnson also announced a major capital expenditure program to consolidate duplicating terminals, build new facilities, and modernize many phases of the operation. He said it would start with a $10.9-million investment for two-way radio truck dispatch, new trucks, conveyor systems, and other equipment, "All designed to improve our services to the shipping public."

Railroads Move Toward 'Agreed' Rate Structure

(*Continued from page* 1)
coal from Kentucky, West Virginia, and Virginia to six points in Virginia by 35¢ a ton. Shippers could get the low rate after they had shipped 1.5-million tons of coal by rail for 12 months.

The measure was taken by the rails in order to keep utility companies that use the coal from moving generating stations to mine sites in order to shave transportation costs.

The I.C.C. allowed the rates to go into effect last August 1 on a temporary basis while it investigated the matter. Now it has given full approval to the rates.

This is the first form of "agreed charges" to be approved by the I.C.C., although it has similar railroad requests pending before it now. Recently, New York State approved similar rates on movements of crushed stone within the state for the Delaware, Lackawanna & Western Railroad.

Brickbats Fly as Congress Probes U.S. Buying

(*Continued from page* 1)
specific problems, are only a prelude to what is coming. Congress is set to undertake a grand investigation next year by a special joint Senate-House committee to go into every aspect of the military buying programs with a view to making concrete recommendations for their improvement.

Behind the uproar is the question of whether the government is getting the most out of every defense dollar and a search for improved buying practices for the government.

So far, there's nothing to indicate any radical shakeups of defense procurement is in the offing. But there are a few changes you can count on, that won't show up too clearly through all the smoke and hoorah of the daily headlines.

- Tighter controls will be clamped on contract awards by the Pentagon.
- Closer evaluation and verification of cost estimates submitted by contractors.
- A further shying away from fixed-price and incentive-price contracts without adequate cost and production experience or some vestige of competition between contractors.
- A more thorough combing of prime contractors' profits on subcontracted work.
- More attention to the rental rates of government-owned production facilities.

If the Democrats in Congress can uncover situations that enable them to force sharper changes in Pentagon purchasing, they will. They plan to devote plenty of time and manpower to the project.

Congress is the real generator of the wave of agitation over procurement policies. Numerous investigations are underway, some shedding more heat than light on the problems.

- The investigation attracting most attention right now is one conducted by Rep. Edward F. Hebert (D., La.). Hebert's House Armed Services Subcommittee is looking into charges the "munitions lobby" is exerting improper influence to win military contracts. The employment of retired military officers in defense contracting jobs is part of this picture.

Hebert has hinted fraud in buying programs. And he accuses the Pentagon of clamping a lid on contract information to cover up irregularities and inefficiencies. The Pentagon claims it merely has followed traditional executive privilege in refusing to provide Congress with certain information. This it has been doing for years, the Pentagon says, and no new changes have been ordered, either as a result of investigations or otherwise.

- A special subcommittee of the Senate Armed Forces Committee also is studying methods of improving and tightening up military buying procedures. The committee is considering three separate measures that provide directly contrasting proposals to one of the most controversial aspects of military procurement: the merits of negotiated contracts versus advertised bidding.

GENERAL OMAR BRADLEY, former chairman of the Joint Chiefs of Staff, starred at the House Armed Services Subcommittee hearings last week. He told Reps. F. E. Hebert, left, and W. E. Hess, he knows of no cases in which retired military officers now with defense industries have influenced Pentagon contracts. Bradley, however, now chairman of the Bulova Watch Co., said retired procurement officers should be forced to wait two years before taking jobs involving defense agency contracts.

New York Sens. Jacob Javits (R.) and Kenneth Keating (R.), whose state has been losing out increasingly to California in defense contracts, are sponsoring a bill to increase military procurement through advertised bids. A measure with similar aims also is being sponsored by Sen. John J. Williams (R., Del.) and a dozen other supporters on grounds that this would tend to lower costs for defense weapons.

But Sen. Leverett Saltonstall (R., Mass.) is proposing legislation with just the opposite effect—to make it easier for the armed services to negotiate contracts and to extend the use of "weapons system management."

Saltonstall, top Republican of the powerful Senate Armed Services Committee, says procurement must be accelerated through negotiated bidding if new weapons development is to keep pace with space age needs.

- Rep. Chet Holifield (D., Calif.) has his House Government Operations Subcommittee looking into questions touching on missile development procurement aspects. The subcommittee has just issued a critical report on military buying practices, recommending wider use of the "single manager concept" of buying. (See p. 22).

This is the procedure under which one service acts as the sole buyer for all branches for particular goods. Such plans already are in operation for medical supplies, clothing and textiles, food, and petroleum. In addition to further military applications, the report recommends making the General Services Administration a single manager for Defense Department procurement of a number of non-defense commercial type products.

Besides these congressional committees, the G.A.O., Congress' "watchdog" agency over federal spending, keeps issuing reports charging inefficiencies and incompetency in the award of defense contracts. The latest charges that the Navy in a series of 10 recent contracts allowed itself to be overcharged some $12 million.

G.A.O. furthermore contends that the Justice Department has ignored its request to prosecute an unnamed defense contractor for fraud. This is being probed further by Hebert's subcommittee.

G.A.O. in its report recommended that these steps be taken:

1. In negotiating spare parts procurement, all contractors' orders be reviewed to assure economies possible from large-volume production.

2. Repricing rights be inserted in contracts where "recent experienced costs are not available or where adequate data are not furnished to support estimated increases in costs."

3. The Pentagon tote up total requirements in advance for items produced by a sole source and coordinate buying as a means of keeping prices in line.

4. Contracting officers verify cost estimates by "independent review of the records from which the contractors derive the information."

5. In more cases components be bought not from prime contractors but directly from producers who now act as the prime's suppliers.

Actually, there won't be any drastic changes made overnight in general military buying policies, despite all the furor. The subject is too complicated to make for any pat solutions. But certain trends and changes already are apparent:

- A shift toward negotiated buying, in contrast to advertised bidding, will become more pronounced.

In past periods when bullets and rifles determined the outcome of military struggles, advertised bidding for these arms may have been more feasible. But in the present nuclear-space age technical considerations become uppermost. And this requires negotiation.

- Despite complexities, however, the Pentagon as a result of criticisms of negotiated buying is likely henceforth to make a greater show of competitive practices in negotiating contracts.
- The growing complexity of modern weapons also means that the big military contracts are likely to continue to win an even greater slice of the defense pie.

Critics Urge Pentagon to Embrace Single Manager Purchasing System

Washington — Congressional critics of Defense Department procurement urged the Pentagon last week to centralize purchasing and supply management under the so-called "single manager" system.

In the single manager scheme, one military service sets up a centralized agency to handle buying, warehousing, and distribution of a specific material for all the military services. Such plans now operate for medical supplies, clothing and textiles, food, and petroleum.

In addition to calling for more widespread use of the single manager scheme, the House Government Operations Committee also recommended that the system would be more effective if the centralized buying-warehousing agencies also were given a stronger role in the establishment of military requirements and ultimate procurement plans.

REP. CHET HOLIFIELD'S Government Operations Subcommittee also urges modernization in Pentagon buying practices.

The committee also proposed that the single manager plan be extended to non-commercial products bought in heavy volume by the military services.

The committee reported that the four-commodity single manager system covers about $2.5 billion worth of annual military procurement. It estimated that the system results in a savings of $8 million annually in costs for personnel, storage space, inventory levels, and transportation.

In addition to the single manager scheme, the Pentagon also has set up a so-called "single department procurement" plan. This involves centralized buying by one service for all military consumers of a wide range of both commercial-type and military-type items.

But this plan, which covers about 70% of the annual military procurement bill, leaves responsibilities for inventory management, distribution, and other supply functions in the hands of the individual services.

Supply and Demand Influence Price

(*Continued from page* 1)
rent wage cost pressure, it should limit any second half rise to 2% or less.

Here's a rundown on how this "free market" factor has been calling the price signals in key industries.

• **Tire products**—Last week's decision by major producers to cut tags on replacement passenger tires 10-15% stems directly from competitive factors. Reports from Akron (the rubber capital) see it as a move to make the big firms' national brands more competitive pricewise with tires of mail order houses, department stores, and smaller companies.

Traditionally private brands have enjoyed a price advantage, selling well under national brands of major companies. This price advantage has been enabling the private brands and small firms to grab a bigger share of the over-all replacement market.

The surprising thing about the reduction is the fact that it is being done in the direct face of higher costs. Pension and fringe benefits already have added to tire producers' bills. The general wage increase now being sought by the United Rubber Workers will push total labor costs even higher.

• **Electrical equipment** — The widely heralded cuts in turbine generators also is competitive in origin. While the companies involved cited production economies, it was basically the inroads made by foreign producers that precipitated the reductions.

And it seems to have brought results. The Florida Power & Light Co., that had been entertaining foreign bids, finally decided to purchase from an American firm.

• **Appliance lines**—While sales are running some 5-10% ahead of last year, appliance makers are none too happy. High stocks and fierce competition has made most of them cautious. Despite a growing profit squeeze most are committed to unchanged prices through 1959—steel boost or no steel boost.

• **Typewriters**—Here is an example where good demand has lessened somewhat the competitive pressure. Excellent sales have prompted producers to consider a 6% boost in standard office typewriters. And this would go into effect regardless of what happens to steel prices (see story, p. 1).

• **Textiles**—Here too demand has been working for higher prices in many lines. According to industry sources, cotton cloth makers now have their biggest order backlogs in eight years. And apparel sales are running well ahead of 1958.

The result has been a general strengthening of prices. Key print cloth prices (80 x 80, 39-in., N. Y.) now are up to 19½¢ a yd.—close to 2¢ a yard more than year-ago quotes.

• **Copper**—This volatile raw material also has felt the influence of competition. Much of the recent cut in producers' prices stemmed directly from the lower prices prevailing overseas. American firms had little alternative but to lower prices.

Overseas prices subsequently stabilized, thanks to last week's announcements of production cutbacks.

Aluminum Strike Threat Is Growing Larger

(*Continued from page* 1)
as General Electric in the electrical industry and the big automakers in Detroit) indicated they were as well or better prepared for an aluminum crisis as they were for steel.

Some industry observers believed the combination of a possible one-two strike punch in the basic metals industry would increase the likelihood of government intervention to avoid major industrial cutbacks.

The stand by the aluminum industry apparently dashed union hopes a quick settlement that could provide a wedge for a break in steel's united front.

Only last-minute compromises on contract extensions — like those that delayed the steel strike —seemed possible to head off a shutdown of most aluminum producing facilities this Saturday.

The aluminum negotiations came to a head even as the federal government was increasing its mediation and fact-finding efforts in the steel dispute.

The stretch drive in aluminum also came at a time when steel consumers were still coasting along on reserve stockpiles and indicating no great rush to buy from well-stocked warehouses and steel importers.

The aluminum industry, which has been operating at upwards of 90% of capacity in recent weeks, had expressed the belief that most of its current shipments were going into immediate production.

A spot check of consumers indicated that individual manufacturers had tossed the stockpiling responsibility back to warehouses and distributors. As a result it appeared aluminum consumers were more vulnerable to production cutbacks than steel, but they remained confident a steel settlement would set the pattern for a quick follow-up in aluminum before too much damage was done.

Distributors warned, however, that "scare-buying" in aluminum could easily disrupt what now was a comfortable supply picture.

In steel, warehousemen around the country reported a flurry of inquiries from "strangers"—not regular customers—but there definitely was no rush to buy last week.

The calmness with which most steel consumers weathered the first two weeks of the strike indicated nearly complete confidence in adequacy of pre-strike stockpiling, availability of warehouse stocks and the possibility of picking up "spot" lots of imported products.

Where shortages were indicated they were in structurals, galvanized, and other products in hottest pre-strike demand.

For example, warehouse officials in Pittsburgh said they did not anticipate strike reaction for about 10 days to two weeks—early in August—but they look for heaviest demand on galvanized sheet, structural shapes, and plates, cold-rolled sheet, and flat bars—in about that order.

On imports, dealers reported a reviving interest in their wares, but orders were inconsistent both as to product and to area. Prices generally were hardening although the price changes varied in intensity and product impact.

It was apparent dealers in foreign steel, many of whom stocked up just as domestic warehouses did in the pre-strike months, where angling for whatever the traffic would bear pricewise.

It appeared pointless for U. S. consumers to place overseas orders now unless delivery is not required before October. Imported steel brokers and industry spokesmen in Japan, Belgium, Germany, and elsewhere said they were booked solid till fall with booming European demand.

Spokesmen at European mills emphasized to PURCHASING WEEK that steel now being offered for sale in U. S. was purchased at lower prices prevailing months ago. Markups now being headlined can be blamed on U. S. merchants who stockpiled speculatively, they declared.

Imported steel prices appeared generally to have been risen $6-$12 a ton.

B.D.S.A. Organizes Steel Sources

(*Continued from page* 1)
nificant increase in calls for help from steel-short users was recorded.

Messinger's office has authority to direct specific mills or warehouses to make immediate shipments to plants needing steel for defense production. It keeps data on the availability of steel products—by type, region, plant, and warehouse—and can informally arrange special deliveries to consumers hit by a shortage.

The B.D.S.A. official urged consumers who need help on steel to telephone him in Washington (ST 3-9200, Ext. 4412).

The priority system for defense steel buying gives top national priority (a DX rating) to missile and space projects. Other defense orders are rated DO and rank behind DX purchases on suppliers' order boards.

B.D.S.A. officials met last week with steel warehouse industry representatives to discuss the strike impact on defense supplies. The industry agreed to submit weekly spot checks on the regional volume of steel warehouse shipments to keep the agency's tabulation up to date.

Price Changes for Purchasing Agents

Item & Company	*Amount of Change*	*New Price*	*Reason*
INCREASES			
Gypsum Building Materials, Bestwall Gypsum, Sept. 15	3%		higher costs
Geranium Oil, bourbon, lb.	$2.00	$23.00	short supply
Algerian, lb.	$1.00	$20.00	short supply
Fir Lumber, green 2x4's, Nrthwst. mills, clts., mftbm	$3.00	$76.00	output dip
Gasoline, 91 oct., Gulf Coast Refin., cargoes, gal.	.0025	.1088	upped demand
REDUCTIONS			
Lavender Oil, 30-32% ester, lb.	.65	$2.60	
40-42% ester, lb.	$1.25	$6.50	
Potassium Stannate, lb.	.005	.784	tin price dip
Sodium Stannate, lb.	.006	.642	tin price dip
Tin Crystals, anhydrous, lb.	.006	$1.013	tin price dip
Mercury, 76-lb. flask	$1.00	$236.00	weak demand
Palm Oil, tanks, lb	.0165	.1125	
Fuel Oil, marine diesel, Superior & Duluth, bbl.	.21	$5.04	
Medium grade, Superior & Duluth, bbl.	.19	$5.46	
Toledo, bbl.	.18	$5.14	
Cleveland, bbl.	.28	$5.25	
Bushings, transfrm.-break. inter., G.E., 23-KV, unit	$20.00	$206.00	prod. economies
34.5-KV, unit	$20.00	$264.00	prod. economies
46-KV, unit	$20.00	$330.00	prod. economies
Geiger tubes, Tracerlab, dip, org. qu., 30 mg, unit	$4.00	$16.00	
Beta gamma org. qu., 30.30 mg, unit	$5.00	$14.00	
Industrial gamma, org. qu., 300 mg, unit	$8.00	$30.00	
Auto Tires, Goodyear, 6.70x15, bl. ray., tblss., unit	$4.80	$27.15	mkt. competition
6.70x14, bl. ray., tblss., unit	$6.40	$27.15	mkt. competition
Fuel Oil, heavy diesel, N.Y., Phila., Balt., bbl.	.05	$3.83	
Tansy Oil, lb.	.25	$6.50	
Eugenol, USP, drums, lb.	.05	$2.25	
Spearmint Oil, lb.	.10	$4.75	
Sodium Thiosulfate, tec., ahd., c.l., 100-lb. bg., lb.	.45	$7.75	
Pentahydrate, photo gd., c.l., 100-lb. bg., lb.	.30	$4.95	
Cottonseed Oil, Valley, lb.	.0013	.13	
Grease, white, N. Y., lb.	.0013	.0688	
Gasoline, Esso, minimum retail, reg., N. J., gal.	.01	.199	
Premium, N. J., gal.	.01	.229	
Super, N. J., gal.	.01	.259	
Copper Sulfate, monohydrate, cwt.	.50	$22.35	copper tag dip
Cuprous Chloride, lb.	.0105	.3925	copper tag dip
Copper Carbonate, lb.	.008	.3405	copper tag dip
Cupric Chloride, anhydrous, lb.	.0075	.44	copper tag dip
Dehydrated, lb.	.005	.30	copper tag dip
Crystals, dried, lb.	.005	.385	copper tag dip

Tubing Comes Flat, Blows Up in a Hurry

(*Continued from page* 1)
Instead, the walls are thinned by a rolling operation.

The thick pipe is fed between two rollers squeezing the tube, thinning the walls, and giving the tube its flat shape. The more "passes" through the rolls, the thinner the walls.

Strubing can be made in sizes ranging from a tube smaller than a pencil lead to a pipe large enough for a man to walk through. Walls vary from foil to pipe thickness. Wolverine expects to be able to ship the tubing in coils up to 15,000 ft. in length. First commercial quantities will be available in the fall.

Wolverine claims the new shape offers five advantages:

1. The tube ships flat to cut shipping cost. Although the shipping weight is the same as conventional tubing, there are no penalty charges added for bulky containers. Weight and size of the carton are reduced.

2. The buyer saves on storage space. The coil of Strubing will take only a fraction of the space needed for regular tubing.

3. The buyer can get longer tubing. No manufacturer can make single lengths of tubing longer than his drawbench. Now, as the tube is coiled as it comes from the rolling mill, it can be made in almost any length.

4. Tubing can be made from special materials that couldn't be used before. Metals such as titanium, tantalum, and columbium are difficult and sometimes impossible to draw. Rolling takes less energy than drawing, hence the new process can handle the hard-to-work metals.

5. Varying lengths of Strubing can be cut when needed. When short pieces of tubing are needed frequently, for instance in maintenance, they can be cut from the roll with metal shears and inflated for use.

Although final prices have not yet been set, Wolverine claims the flat tubing will sell for "the same or, very possibly, less" than conventional tubing of same size.

The product is not intended primarily as a replacement for tubing now on the market. It is expected to extend tubing applications to areas previously ruled out by physical limitations. Possible new applications include:

- **Lining**—Strubing made from a corrosion-resistant material such as tantalum could be inserted in a pipe or tank and inflated to form a inner liner.
- **Packaging**—Metal-foil thickness Strubing holds promise as packaging material such as frozen foods and toothpaste. Somewhat heavier-walled Strubing is being eyed by the canning industry for possible use in construction of seamless "tin" cans.
- **Manufacturing** — Used with automatic production lines to make things like radiators, instrument lines, tubes for ball-point pens.
- **Construction**—Ductwork for an entire heating system could be shipped in a small box instead of a trailer-truck. The ribbon could be strung through the plant, inflated right in place.

Once the ribbon of Strubing is in the customer's plant, it can be inflated by either hydraulic or air pressure or by mechanical means (forcing it into a round shape by pulling the pipe over a mandrel).

The thinner the wall the lower the pressure required to inflate the tube. Wolverine claims that inflating the tubing will be a relatively easy and inexpensive process and that any plant can develop a system that fits its particular needs.

Reynolds Metal Co. and Olin-Mathieson have used a somewhat similar process in the manufacture of refrigerator condensers. They bond two pieces of aluminum together, then inflate part of the air space between the two sheets to form a condenser.

Sulphur Output Cut Back Because of Oversupply

Houston—Sulphur producers are cutting back output because of an oversupply situation resulting from foreign market competition and new processes.

Texas Gulf Sulphur Co., the largest domestic producer, cites oversupply as the reason for laying off 10% of its Texas work force. The layoff hit Texas Gulf's Newgulf, Texas, operation.

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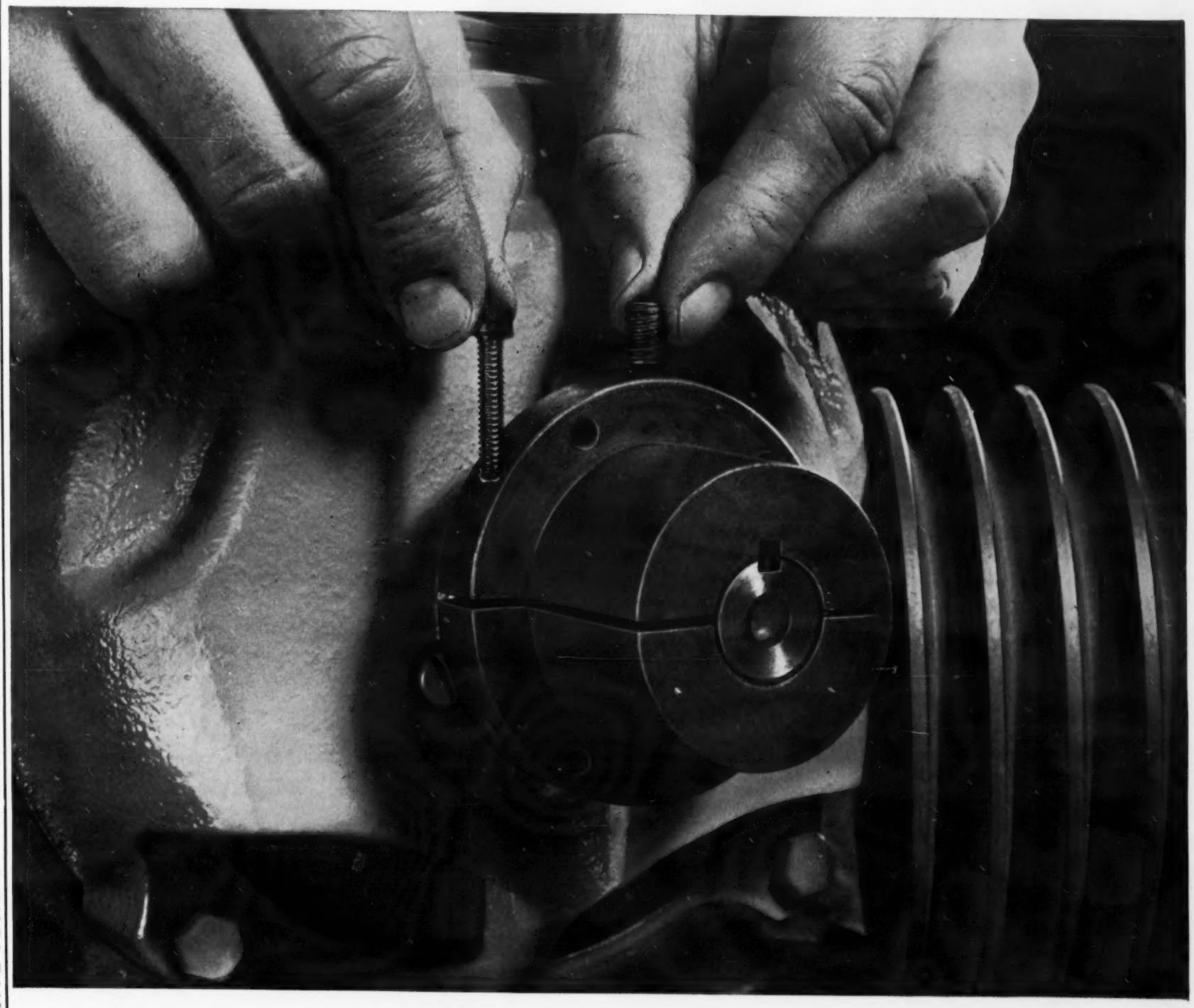

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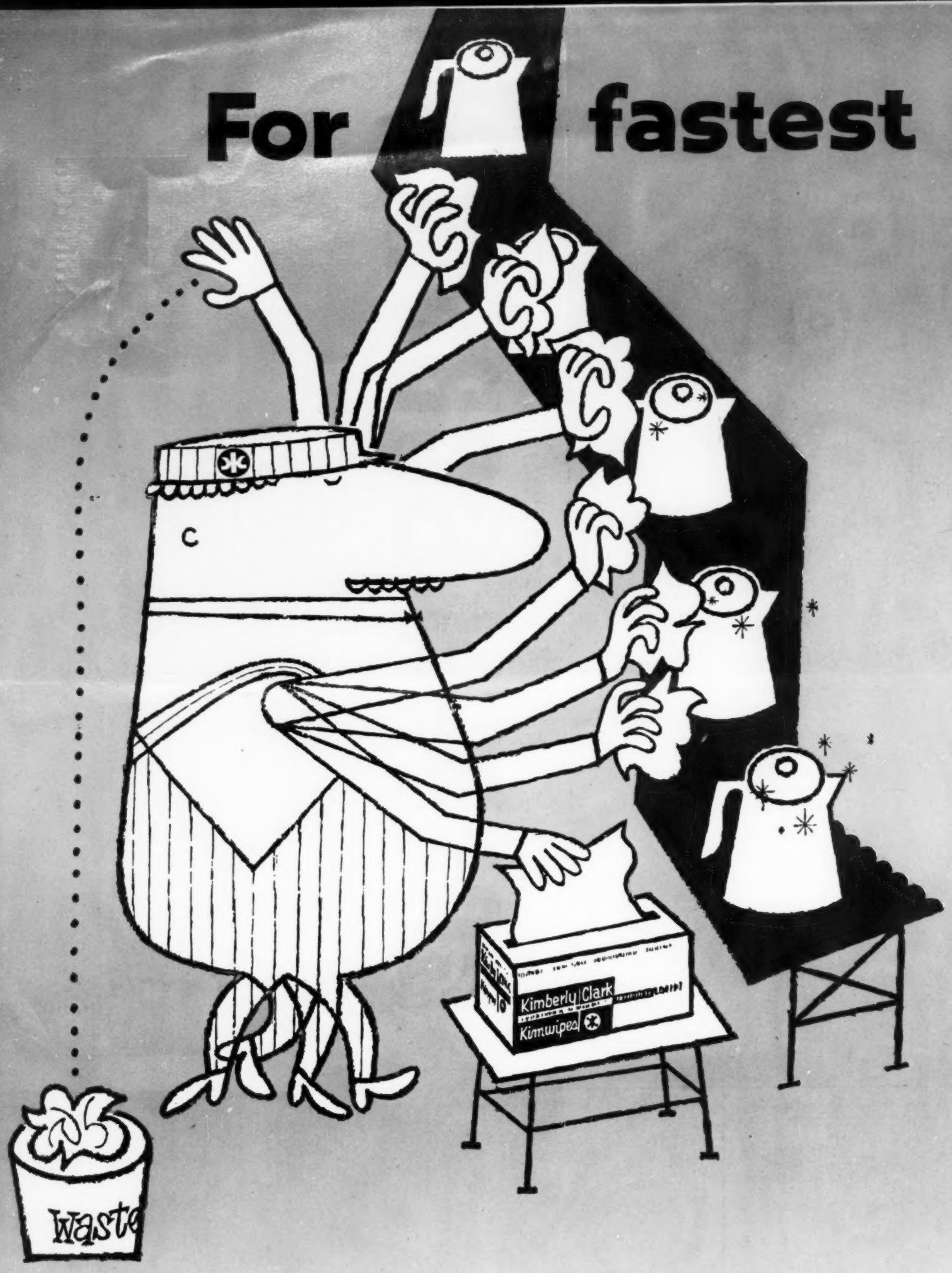

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